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WEST CHICAGO
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29 April 2020

Mr. David Seely
Remedial Project Manager
U.S. EPA, Region 5
Superfund Division (SR-6J)
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

SUBJECT: 2019 Annual Monitoring Report, Revision 00
Reaches 5D, 5E, 8, and the Mack Road Staging Area
The Kress Creek / West Branch DuPage River Site, West Chicago, IL

Dear Mr. Seely,

Weston Solutions, Inc., not individually but solely in its capacity as Trustee of the West Chicago Environmental Response Trust (WCERT), is pleased submit, for your review, the 2019 Annual Monitoring Report (Report) for the Kress Creek / West Branch DuPage River Site (Site). The Report presents the results of 2019 monitoring and maintenance activities that were performed, to characterize the status of restored habitats following the completion of remedial activities.in Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Site All monitoring and maintenance activities were performed in accordance with the approved *Conceptual Mitigation and Restoration Design Plan* (BBL, 2005).

Please do not hesitate to contact me if you have any questions or need any additional information. Your prompt review will be appreciated.

Sincerely,

Deepak L. Bhojwani
Program Manager, WCERT

Email cc: Jamie Lock (DuPage County); Kurt Stimpson (WCERT)

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Prepared For:

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SmithGroup Project Number: 10110.001

REVISION 00

April 2020

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site
DuPage County, Illinois

Certification

To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Mark O'Leary
AES Principal Investigator

Deepak Bhojwani
WCERT Program Manager

April 2020

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Executive Summary

This report presents the results of monitoring and maintenance activities that were performed during 2019 for the Kress Creek / West Branch DuPage River Site in DuPage County, Illinois. The monitoring activities were performed by Applied Ecological Services, Inc. (AES) and SmithGroup on behalf of the West Chicago Environmental Response Trust (WCERT) to characterize the status of restored habitats following the completion of remedial activities performed in accordance with the approved *Conceptual Mitigation and Restoration Design Plan* (BBL, 2005).

Cleanup at the site began during summer 2005 and progressed through 2013. Due to Federal funding issues, the project went through an orderly shutdown on June 1, 2014, and no maintenance or monitoring activities were performed during the 2014 season. Maintenance or monitoring activities resumed in 2015, and key decisions were made by WCERT and agency staff that summer regarding these activities. Project activities continued throughout 2016-2019, and this report documents these activities for the 2019 season and the status of each reach.

Agency Meetings, Correspondence and Key Decisions

Representatives from AES, SmithGroup, and Tallgrass communicated with WCERT and the Local Communities (collectively, the Team) during 2019 to facilitate a mutual understanding of the status of monitoring and management activities. These communications are summarized below:

- **Site Management:** Tallgrass sent emails throughout the season informing WCERT, AES, SmithGroup, and the Local Communities of their management activities and seeking input when needed;
- **Site Monitoring:** AES and SmithGroup sent emails and memos to WCERT and other Team members reporting their findings and recommendations from their site inspections;

Management Activities

Management of herbaceous species within specific areas of each reach under consideration during 2020 is summarized below.

<u>Reach 5E</u>

- The site was burned on April 9, mowed on June 7, and spot mowed on July 29. Reed canary grass (RCG) and other weeds were spot-herbicided along the river on June 7, and hairy cup grass, thistle, clover and other invasive species were spot-herbicided three times throughout the site on July 3, July 29, and September 24.

<u>Reach 8A</u>

- Pod R8-3. Native woodland seed mix was installed on May 22. Site was selectively herbicided on June 7 targeting RCG and other weeds. Stickseed and ragweed were spot mowed, and burdock, buckthorn and purple loosestrife were spot-herbicided on August 19. Woody invasives were cut and treated on September 24. A bare area at the north end of the woodland was over-seeded with bottlebrush grass and Virginia wild rye on November 14. Area 4. Spot-herbiciding of RCG and other weeds was completed on June 7. Six hundred (600) wet prairie plugs were installed and watered on June 19 and watered again on July 12. Selective mowing of ragweed, Queen Anne's lace, black mustard, sow thistle, and other weeds, and

selective herbiciding of purple loosestrife, RCG, moneywort, buckthorn, honeysuckle, and box elder was completed on August 19 in Areas 4, 5 and 6. Small bare areas were over-seeded with wetland and open floodplain seed mixes on November 14.

- Areas 5 & 6. RCG, purple loosestrife and other weeds were herbicided on June 7, and many of the same species managed in Area 4 were selectively herbicided or mowed in these areas on August 19. Small bare areas were over-seeded with wetland and open floodplain seed mixes on November 14.

Reach 8B

- Area 11. This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. Protective fencing around trees and shrubs were repaired or removed on May 9. Selective herbiciding of many of the same weeds found in Area 12 was completed four times throughout the season (June 10, July 2, August 16, and September 23). Selective mowing was also completed on August 16 and August 19 for some of the same weedy species found in Area 12.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. Protective fencing was removed or repaired around trees and shrubs on May 9. The site was selectively herbicided for cover, sweet clover, thistle, RCG, *Phragmites*, hairy cup grass, and other weeds on the same four days as Area 11 (June 10, July 2, August 16, September 23). Selective mowing was also completed on August 16 and August 19 for ragweed, Queen Anne's Lace, foxtail, and black mustard.

The Mack Road Staging Area

- Protective fencing around trees and shrubs were repaired or removed on May 8. No other management occurred in this area.

Reach 5D Upland Savanna

- Cool season grasses at the west end of the area were rototilled on April 11, herbicided on May 3, and seeded with the upland savanna mix on May 22. Protective fencing around trees and shrubs were also repaired or removed in this area on May 8. Selective herbiciding of clover, cheat grass and other cool season grasses was completed on June 7. The west end of the site was reseeded with wild rye and native forbs on June 26. Tallgrass spot-herbicided honeysuckle and buckthorn and mowed Queen Anne's lace, wooly cup grass, fox tail, sweet clover, and ragweed on August 19. On September 24, sweet clover was mowed and thistle and woody resprouts were herbicided. Small bare areas were over-seeded on November 14 with a native savanna grass species.

Monitoring Results and Management Recommendations

The following summarizes conclusions for each reach based on 2019 monitoring results and site inspections and proposes management activities for specific areas for 2020.

Herbaceous Vegetation

Vegetation monitoring results and recommended management activities for each reach are detailed below and summarized in Table EX. 1. Table EX. 2 compares the 2019 monitoring results with the 2018, 2017, 2016, and 2015 monitoring results.

Reach 5E

Performance: The site was dominated by yellow foxtail (annual weed), hairy cup grass and a few natives such as brown-eyed Susan and big blue stem which were common throughout. Only one of two performance standards were met and none of the evaluation metrics.

Recommendations:

- Burn reach in spring 2020.
- Over-seed with native forb and grass species from approved modified upland savanna mix.
- Spot-mow and spot herbicide as needed.

Reach 8A

Performance: Reach 8A met or exceeded both performance standards and two of the four evaluation metrics for 2019. The three most dominant species were native and no bare ground over 0.5 square meters was present, However, Native Mean C was below 3.5 (2.89) and was slightly lower than it was in 2015 (2.93). Sign off has been requested for Reach 8A because the site is very well vegetated (114% cover and no bare areas >0.5 m^2) and is dominated by native species (95% Native RIV and Weedy Invasive species <1%), and the Native FQI (28.74) is higher than it was in 2015. A slightly lower Native Mean C in this area likely is due to structural changes (increased competition and dominance by fewer more abundant species) that occur in natural communities as they mature.

Recommendations: Pod R8-3

- Signoff recommended.

Recommendations: Area 4

- Signoff recommended.

Recommendations: Area 5

- Signoff recommended

.Recommendations: Area 6

- Signoff recommended.

Reach 8B

Performance: Reach 8B met or exceeded both performance standards and two of four evaluation metrics. Total vegetation cover was 104.85% with 0.55% weeds. The native Mean C was 3.7. The three most dominant species were native, and the FQI and RIV increased between 2015 and 2019. However, Native Mean C was slightly lower in 2019 (3.7) than it was in 2015 (3.72) and bare ground exceed 0.5 square meters in a few areas.

Sign off is requested for Reach 8B because the site is very well vegetated with overall coverage 105%, it is dominated by native species (81% Native RIV), and Weedy Invasive species cover is very low (<1%). A slightly lower Native Mean C I in this area is likely due to the same changes in community structure as described in Reach 8A.

Recommendations: Area 11 – T1 (North of drive)

- Signoff recommended.

Recommendations: Area 11 – T2 (South of drive)

- Signoff recommended.

Recommendations: Area 12 – T3 - T8

- Signoff recommended.

Mack Road – Staging Area

Performance: Mack Road staging area achieved its performance standard (>90% native vegetation cover) but will not receive signoff until Reach 5D-Upland Savanna also meets performance standards.

Reach 5D Upland Savanna

Performance: The Reach 5D Upland Savanna area must meet the same two performance standards as other reaches but neither were met in 2019. Native Mean C, FQI, and RIV have all increased since 2016, but no other evaluation metrics were met this year (2019).

Recommendations:

- Burn in Spring of 2020
- Over-seed with Virginia wild rye and Canada wild rye, and install native forbs plugs
- Spot-mow and spot-herbicide as needed.

Reaches 8A and 8B met the established performance standards in 2019 and a Certification Inspection will be requested for each in 2020.

Trees and Shrubs

The Mack Road / Reach 5D Upland Savanna site does not meet performance criteria for woody plants (survival rate of 88%). Because access to Reach 5D is through the Mack Road Staging area, this entire area will be maintained and monitored until Reach 5D meets acceptance criteria.

Reach 8B is short of meeting performance standards with a woody vegetation survival rate of 71%. However, the site meets the performance standards for herbaceous vegetation and is thus eligible for sign-off pending the resolution of the means and methods for replacing the woody plants.

At Mack Road several stakes around trees and shrubs were observed to be loose or missing. The staking is scheduled to be assessed and reset as a maintenance activity in spring 2020.

Monitoring Methods

Herbaceous Species

Herbaceous species were monitored along transects during September 4 and 5, 2019. Herbaceous species were monitored per the Plan except that quadrats were located along transects as is generally accepted by regulatory agencies in the region. This modified protocol was approved per a June 11, 2015 email to the USEPA and Local Communities' representatives. The location and number of quadrats per transect is included as Exhibit B.

Tree and Shrub Survival

Annual tree and shrub survival monitoring was completed during August 5-6, 2019, and included the following locations:

- Reach 8B: Areas 11 and 12 as noted on Local Communities release memorandum dated September 27, 2013.
- Mack Road Staging Area: Entire staging area including Reach 5D Upland Savanna habitat.

During the monitoring, survival was determined by visual assessment of the plant material, using the following criteria established during 2015 by the project team and agency staff:

> *Replace any plants that are damaged, dead, or, in the opinion of the Owner's Representative, with concurrence from the Local Communities, are unhealthy, or have lost more than 25% of their natural shape due to dead branches, excessive pruning or improper maintenance.*

Diagrams were created to document the condition of each individual plant installed per the record drawings, as shown in Exhibit C. The recorded conditions were characterized as follows:

- Acceptable Condition: Plant condition and form meets the criteria outlined above. Only plants that were coded as "Acceptable Condition" were considered to have "survived" for the percent survival calculation.
- Plant Dead: Entire plant was observed to be dead.

The diagrams in Exhibit C show all plant material currently in acceptable condition, as well as notations for plants that changed status to dead in 2019. For clarity of the diagrams, all plants that were previously coded as unacceptable in 2015, 2016, 2017 or 2018 are shown by outline only, with notes provided for clarity if the vegetation may be obscured by adjacent symbols.

Monitoring Results

Herbaceous Vegetation

Table EX.1 below summarizes the results of 2019 herbaceous species monitoring. Monitoring results indicate that Areas 8A and 8B have achieved all performance standards and are recommended for signoff. Invasive weeds are those found on the Midwest Invasive Plant Network's Midwest Invasive Plant List for Illinois (MIPN 2019; Appendix E).

Table EX.1 2019 Vegetation Monitoring Results by Reach and Management Recommendations for 2020

Reach	Performance Standard	2019 Results			2020 Management Recommendations	Recommend Signoff?
5E	90% cover	80.3%			Burn in Spring and overseed with forbs and native grasses.	Sign off not recommended. Only one of two performance criteria met. Site reseeded last spring (2018).
	<5% weeds	0.37%				
	Evaluation Metrics					
	Native C > 3.5	3.3				
	Native FQI	35.81				
	Native RIV	55.9				
	C, FQI, and RIVI increase	No				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SETPUM	23.7	No		
		ERIVIL	11.9	No		
		ANDGER	6.8	Yes		
8A	**Performance Standard**					
	90% cover	113.77%			No Recommendations	Sign off recommended. Reach met both performance standards and three of four evaluation metrics.
	<5% weeds	0.73%				
	Evaluation Metrics					
	Native C > 3.5	2.89				
	Native FQI	28.74				
	Native RIV	93.9				
	C, FQI, and RIV increase	No				
	No Bare ground ≥ 0.5 square meter	Yes				
	3 most dominant species native?	Species	RIV	Native?		
		RUDTRI	17.4	Yes		
		SYMLAN	9.5	Yes		
		PHYVIR	8.7	Yes		

Reach	Performance Standard	2019 Results			2020 Management Recommendations	Recommend Signoff?
8B	90% cover	104.85%			No Recommendations	Sign off is recommended. Reach met both performance standards and two of four evaluation metrics.
	<5% weeds	0.55%				
	Evaluation Metrics					
	Native C > 3.5	3.7				
	Native FQI	55.1				
	Native RIV	81.1				
	C, FQI, and RIVI increase	Yes				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SOLCAN	9.5	Yes		
		SORNUT	7.5	Yes		
		ANDGER	6.1	Yes		

Reach	Performance Standard	2019 Results			2020 Management Recommendations	Recommend Signoff?
Mack Road Staging Area	90% native cover	104.52%			Spot herbicide non-native species.	Recommended when Reach 5D meets all standards.
5D Upland Savanna	**Performance Standard**				Burn in Spring and overseed with Virginia wild rye and Canada wild rye. Install several hundred plugs of forbs.	Sign off not recommended. Site met only one of two performance standards in 2019.
	90% cover	76.08%				
	<5% weeds	0.81%				
	Evaluation Metrics					
	Native C > 3.5	3.29				
	Native FQI	21.08				
	Native RIV	67.9				
	C, FQI, and RIV increase	No				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		ERIVIL	14.4	Yes		
		SORNUT	8.5	No		
		ELYVIR	9.6	Yes		

Table EX.2 2015 – 2019 Vegetation Monitoring Results by Reach

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
5E	90% cover	114.00%			N/A			82.70%			81.46%			80.29%			-33.71%
	<5% weeds	56.30%			N/A			21.50%			28.48%			0.37%			-55.93%
	Evaluation Metrics																
	Native C > 3.5	3.06			N/A			3.19			3.00			3.30			0.24
	Native FQI	25.22			N/A			33.47			30.00			35.81			10.59
	Native RIV	56.5			N/A			45.0			54.0			55.9			-0.6
	No Bare ground ≥ 0.5 square meter	Yes			N/A			No			No			No			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	1/3 Species Native
		POAPRA	17.0	No	N/A	N/A	N/A	TRIHYB	15.0	No	SETPUM	17.8	No	SETPUM	23.7	No	
		SYMLAN	11.0	Yes	N/A	N/A	N/A	DAUCAR	7.7	No	PANCAP	5.4	Yes	ERIVIL	11.9	No	
		ANDGER	6.6	Yes	N/A	N/A	N/A	ERIANN	6.8	Yes	AMBART	5.0	Yes	ANDGER	6.8	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
8A	90% cover	90.15%			61.50%			90.10%			79.54%			113.77%			23.62%
	<5% weeds	30.65%			14.76%			4.25%			2.64%			0.73%			-29.92%
	Evaluation Metrics																
	Native C > 3.5	2.93			2.93			3.29			3.19			2.89			-0.04
	Native FQI	25.05			25.4			35.84			34.71			28.74			3.69
	Native RIV	62.2			77.6			83.7			87.1			95.2			33
	No Bare ground ≥ 0.5 square meter	No			No			No			No			Yes			No bare round >.5 m
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	
		PHAARU	12.5	No	SYMLAN	16.0	Yes	RUDTRI	12.0	Yes	SYMLAN	9.4	Yes	RUDTRI	17.4	Yes	3/3 Species Native
		SOLALT	10.8	Yes	GLEHED	12.0	No	EUPSER	9.3	Yes	RUDLAC	7.7	Yes	SYMLAN	9.5	Yes	
		SYMLAN	9.9	Yes	RUDSUB	6.5	Yes	SYMLAN	6.5	Yes	PHYVIR	6.6	Yes	PHYVIR	8.7	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
8B	90% Cover	105.00%			94.30%			98.90%			92.24%			104.85%			-0.15%
	<5% weeds	24.15%			16.10%			14.05%			6.46%			0.55%			-23.60%
	Evaluation Metrics																
	Native C > 3.5	3.72			3.12			3.87			3.74			3.7			-0.02
	Native FQI	44.76			33.21			55.24			52.79			55.1			10.34
	Native RIV	70.8			74.9			78.1			78.4			81.1			10.3
	No Bare ground ≥ 0.5 square meter	No			No			No			No			No			No change
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	3/3 Species Native
		SOLALT	10	Yes	SOLCAN	8.0	Yes	SOLCAN	9.5	Yes	SOLCAN	9.5	Yes	SOLCAN	9.5	Yes	
		ELYVIR	4.7	No	ELYCAN	4.6	Yes	SORNUT	8.3	Yes	SORNUT	8.7	Yes	SORNUT	7.5	Yes	
		POAPRA	4.2	Yes	ELYVIR	4.5	Yes	SYMLAN	5.4	Yes	ELYVIR	7.0	Yes	ANDGER	6.1	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
Mack Road Staging Area	90% native cover	85.20%			93.10%			87.30%			96.37%			104.52%			19.32%
5D Upland Savanna	**Performance Standard**																
	90% cover	N/A			79.00%			95.20%			79.15%			76.08%			-2.92%
	<5% weeds	N/A			40.08%			10.08%			21.85%			0.81%			-39.27%
	Evaluation Metrics																
	Native C > 3.5	N/A			1.46			3.19			3.39			3.29			1.83
	Native FQI	N/A			12.07			23.21			24.9			21.08			9.01
	Native RIV	N/A			34.5			47.6			53.2			67.9			33.4
	No Bare ground ≥ 0.5 square meter	N/A			No			Yes			No			.			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	2/3 Species Native
		N/A	N/A	N/A	PASLAE	10.9	No	ERIVIL	24.6	No	ELYCAN	14.3	Yes	ERIVIL	14.4	No	
		N/A	N/A	N/A	AVESAT	9.3	No	ELYCAN	14.9	Yes	POAPRA	12.1	No	SORNUT	8.5	Yes	
		N/A	N/A	N/A	POAPRA	8.7	No	RUDSUB	7.3	Yes	RUDSUB	9.2	Yes	ELYVIR	9.6	Yes	

*Native C, Native FQI, and Native RIV are the only Evaluation Metric that must improve from Year 1 to Year 3 per the Maintenance and Monitoring Plan.

Invasive Weed List source:

2019- Midwest Invasive Plant Network (MIPN). 2019. Midwest Invasive Plant List. https://www.mipn.org/plantlist/ Accessed 9/20/2019.

2018- Midwest Invasive Plant Network (MIPN). 2018. Midwest Invasive Plant List. https://www.mipn.org/plantlist/ Accessed 11/20/2018.

Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site does not meet the performance standard for survival of woody plants, with 88% total survival of the plants remaining after the 2015 monitoring season. A total of 1 tree and 3 shrubs were lost at Mack Road since the 2018 monitoring season. Reach 8B also does not meet the performance standard, with 71% of all plants surviving. Since 2018, an additional 4 trees and 5 shrubs were lost at Reach 8B. It should be noted that several of the losses this season were from reasons other than the plant material simply failing to thrive, such as being crushed by a large fallen tree, damaged by beaver, or wiped out by flood debris. Table EX.3 below summarizes the results of Tree and Shrub Survival Monitoring.

Table EX.3 Percent Survival of Trees and Shrubs in All Reaches, 2019 Monitoring Season

Site	% Survival Trees	% Survival Shrubs	Total % Survival of Woody Plants
Mack Road / Reach 5D Upland Savanna	97%	82%	88%
Reach 8B	75%	67%	71%

Discussion

Herbaceous Vegetation

Reach 5E

Reach 5E met one of two performance standards and none of evaluation metrics. The native FQI (35.81) and Native Mean C (3.30) increased since 2015, but native RIV dropped slightly from 56.5 in 2015 to and 55.9 in 2018. Total vegetation cover was below 90% (80.29%), invasive weeds was less than 5% (0.37%) of herbaceous ground cover, and patches of bare ground exceeded 0.5 square meters.

The site was blanket herbicided in late 2017, then tilled, herbicided, and reseeded during spring (2018). The site was mowed and spot-herbicided a number of times during the 2018 growing season.

The site was prescribed burned on April 9, mowed on June 7, and spot-mowed on July 29, 2019. Selective herbiciding took place on June 7, July 3, July 29, and September 24.

The site was dominated by yellow foxtail and Chinese cup grass (non-native species) along with a number of native species including big blue stem, brown-eyed Susan, annual fleabane, and Indian grass. Recommendations for 2020 include burning in spring followed by overseeding with native forb and grass species, and spot-herbicide and spot-mow as needed.

Reach 8A

Reach 8A exceeded both performance standards and two of the four evaluation metrics for 2019. Total vegetation cover was 114% and invasive weed cover was <1%. The three most dominant species were native (brown eyed Susan, white panicled aster, and obedient plant), the Native RIV was 95.2, the Native FQI was 28.74, and no bare ground over 0.5 square meters was present. However, Native Mean C was below 3.5 (2.89) and was slightly lower than it was in 2015 (2.93).

All of these sites were spot-herbicided, mowed, or had invasive woody species removed in 2019. Supplemental seeding took place in fall of 2019 to fill in some small bare areas resulting from recent herbicide treatment and to improve species diversity.

Sign off has been requested for Reach 8A because the site is very well vegetated (114% cover and no bare areas >0.5 m^2), is dominated by native species (95% Native RIV and Weedy Invasive species <1%), and the Native FQI (28.74) has increased. A slightly lower Native Mean C in this area is likely due to structural changes that occur in natural communities as they mature. Over time many natural communities, including native restorations, will increase in density (e.g. vegetation cover) and can become dominated by fewer, more abundant species. Increased competition can inhibit the establishment of new species and even reduce the abundance of established ruderal species. This can result in species richness or diversity of a community leveling off over time, and in a managed community where weedy species are being actively reduced, it could lead to a drop in diversity. These trends have been observed in Reach 8A where total cover has greatly increased, and the most dominant species have increased while over the same time non-native species have greatly decreased. These changes to community structure and diversity as well as difficulty detecting smaller and less common species can help explain why there has been a slight drop in the Native Mean C over the last four years.

Please note that signoff is considered separately for Reach 8A and Reach 8B per the 2015 Annual Monitoring Report.

The following summarizes the management and condition of Reach 8A by area:

- Pod R8-3. Native woodland seed mix was hand-broadcast on May 22. Reed canary grass (RCG) and other weeds were selectively herbicided on June 7. Stickseed and ragweed were spot mowed, and burdock, buckthorn and purple loosestrife were spot-herbicided on August 19. Woody invasives were cut and treated on September 24. A bare area at north end of woodland was over-seeded with bottlebrush grass and Virginia wild rye on November 14. Jewelweed dominates the east end of the woodland edge, and native species dominate the riverbank.

- Area 4. RCG and other weeds were spot-herbicided on June 7. Six hundred (600) wet prairie plugs were installed on June 19 and watered on July 12. RCG, purple loosestrife, moneywort, and woody invasives were herbicided, and ragweed, Queen Anne's lace, black mustard, sow thistle, and other weeds were spot-mowed on August 19. Native wetland and open floodplain seed were hand-broadcasted on November 14. Native cover and RIV greatly increased this year, and RCG was reduced.

- Areas 5 and 6. RCG, purple loosestrife, and other weedy species were herbicided on June 7, and many of the same species managed in Area 4 were selectively herbicided or mowed in these areas on August 19. Native wetland and open floodplain seed mixes were hand broadcasted in small bare areas on November 14. Native cover and RIV are also very high in these areas.

Reach 8A met performance standards in 2019. Signoff is recommended. No management is planned for 2020.

Reach 8B

Reach 8B exceeded both performance standards and two of four evaluation metrics. Total vegetation cover was 104.9 and invasive weeds were 0.6%. The native Mean C was 3.7, the three most dominant species were native, and FQI and RIV increased between 2015 and 2019. However, Native Mean C was lower in 2019 (3.7) than 2015 (3.72) and bare ground exceed 0.5 square meters.

Both sites were spot-herbicided, mowed, or had invasive woody species removed in 2019.

Sign off has also been requested for Reach 8B because the site is very well vegetated (105% cover) and is dominated by native species (81% Native RIV and Weedy Invasive species <1%). A slightly lower Native Mean C in this area is likely due to structural changes that occur in natural communities as they mature. This slight drop in a diversity metric has likely occurred in this reach for the same reasons it has in Reach 8A – a denser community dominated by fewer abundant species may inhibit establishment or growth of other more ruderal species. Trends similar to those found in Reach 8A have also been observed in Reach 8B where the most dominant species have increased in abundance while at the same time non-native species (mostly ruderal species) species RIV has decreased. These changes to community structure and diversity can help explain why there has been a slight drop in the Native Mean C over the last four years.

The following summarizes the management and condition for Reach 8B by area:

- Area 11: This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. Protective fencing around trees and shrubs were repaired or removed on May 9. Selective herbiciding for many of the same weeds found in Area 12 occurred four times (June 10, July 2, August 16 and September 23) in this area. Selective mowing was also completed on August 16 and August 19 for some of the same weedy species as found in Area 12. This area is dominated by native species including marsh aster and mild water-pepper with very high native cover. A new bridge was constructed on the West Drive over the DuPage River in 2017, and disturbed areas on both sides of the east end of the new bridge were seeded, planted, and blanketed that fall. Most of the area south of the drive (T2) was disturbed by the bridge construction and, according to an email from the County on November 22, 2017, WCERT is not responsible for repairing or restoring this area. Nor is WCERT responsible for repairing or restoring the area immediately north of the new bridge that was also disturbed during construction.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. Management in Area 12 followed the same schedule as Area 11. The site was selectively herbicided for cover, sweet clover, thistle, RCG, *Phragmites*, hairy cup grass, and other weeds on June 10, July 2, August 16, September 23. Selective mowing was also completed on August 16 and August 19 for ragweed, Queen Anne's Lace, foxtail, and black mustard. This area also has high native cover and is dominated by Indian grass, Canada goldenrod, big bluestem, and other native forbs and grasses.

Reach 8B met performance standards in 2019. Signoff is recommended. No management is planned for 2020.

Mack Road Staging Area and Reach 5D Upland Savanna

The Mack Road Staging Area achieved the performance standard of 90% native vegetative cover in 2016 and again in 2018 and 2019. No maintenance of herbaceous vegetation was completed in between 2017 and 2019. On May 8, 2019, the protective fencing around trees and shrubs were repaired or removed.

The Reach 5D Upland Savanna area must meet the same two performance standards as other reaches, but only one (<5% invasive weeds) was met in 2019. Native Mean C, FQI, and RIV have all increased since 2016, but no other evaluation metrics were met during 2019. Cool season grasses were rototilled on April 11 and herbicided on May 3. Protective fencing around trees and shrubs were repaired or removed on May 8. Native upland savanna seed was installed on May 22. Selective herbiciding of clover, cheat grass and other cool season grasses was completed on June 7. The west end of the site was reseeded with wild rye and native forbs on June 26. The site was selectively mowed for ragweed, Queen Anne's lace, sweet clover, foxtail and hairy cup grass on August 19. On September 24, sweet clover was mowed and thistle and woody resprouts were herbicided. On November 14, native savanna grass seed was hand broadcasted. The site will be burned in Spring of 2020, over-seeded with Virginia wild rye and Canada wild rye, planted with native forb plugs, and spot-herbicide and spot-mowed as needed.

Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site currently does not meet performance criteria for woody plants, with a survival rate of 88%. We recommend continued observation and assessment of the woody plant survival until herbaceous plant material meets performance criteria. Because access to Reach 5D is through the Mack Road Staging area, this entire area will be maintained and monitored until Reach 5D meets acceptance criteria.

Reach 8B is short of meeting performance standards, with a woody vegetation survival rate of 71%. However, the site meets the performance standards for herbaceous vegetation and is thus eligible for sign-off pending the resolution of the means and methods for replacing the woody plants.

At Mack Road several stakes around trees and shrubs were observed to be loose or missing. This likely happens as the staking materials naturally degrade or are bumped by maintenance crews or animals. The staking is scheduled to be assessed and reset as a maintenance activity in spring 2020.

Restored Banks

The West Branch of the Du Page River in Reach 8A is stable. Two areas of eroding bank on Ferry Creek in the McDowell Grove Forest Preserve (Reach 8B) were repaired and stabilized during summer 2017.

These areas were monitored in 2018 following three two-year storm event and remained stable. The County inspected these areas in June 27, 2018 with the Local Communities and recommended sign off. No monitoring was completed in 2019.

Conclusions and Recommendations

Herbaceous Vegetation

Management of Reaches 8A and 8B has resulted in improved conditions at each. Non-native cover has been reduced from 2.6% to 0.7% in 8A, and 6.5% to 0.5% in 8B. Reach 8A met or exceeded both performance standards and two of the four evaluation metrics for 2019: invasive weeds are less than 5%, percent cover exceeds 90%, the three most dominant species are native, and there was no bare ground over 0.5 square meters. Reach 8B also met or exceeded both performance standards and two out of four evaluation metrics. Total vegetation cover was 104.8%, the native Mean C was 3.7, and the three most dominant species were native. No management was performed at the Mack Road Staging Area in 2019. The Reach 5D upland savanna did not meet either performance standard and met only one evaluation metric- native Mean C, FQI, and RIV were all greater than they were in 2016. Due to Reach 5E's

poor performance, the upland savanna area was reseeded in spring 2018 with a modified savanna mix. Reach 5E met one performance standard (invasive weeds < 5%) in 2019 but no evaluation metrics.

Proposed management activities and the reaches where they will be implemented are listed in Table EX. 4 below.

Table EX.4 Summary of Proposed 2020 Management Activities by Task

Task	Reach(s)	Unit	Unit(s)	Schedule 2020
Supplemental Plugs	5D Upland Savanna	Acres	0.23	Q2
Spot Herbicide (2-3 visits throughout the growing season)	5E	Acres	4.57	Q2-Q3
	5D Upland Savanna	Acres	0.23	Q2-Q3
Spot Mow 1-2x	5E	Acres	4.57	Q2-Q3
	5D Upland Savanna	Acres	0.23	Q2-Q3
Burn	5E	Acres	4.57	Q4
	5D Upland Savanna	Acres	0.23	Q4
Supplemental Seeding	5E	Acres	4.57	Q4
	5D Upland Savanna	Acres	0.23	Q4

Tree and Shrub Survival

The following recommendations are made for woody plant survival:

- Evaluate and reset all loose staking materials around trees and shrubs at Mack Road in Spring 2020.
- Although the Mack Road / Reach 5D Upland Savanna site is presently not meeting woody plant performance standards, we do not recommend replacing trees and shrubs until the herbaceous vegetation also meets acceptance criteria. As the Mack Road / Reach 5D Upland Savanna herbaceous vegetation will not be eligible for signoff until fall 2020, we will continue to assess the woody plant survival to determine if replacements will be necessary in addition to the 2015 punch list.
- Reach 8B meets the performance standards for herbaceous vegetation and is thus eligible for sign-off pending the resolution of the means and methods for replacing the woody plants. If sign-off is received, staking materials will be removed from all surviving trees and shrubs in 2020.

Restored Banks

The County inspected the two restored areas on Ferry Creek in June 2018 with the Local Communities and recommended sign off. No monitoring was conducted in 2019.

[i]Projection for Future Maintenance and Monitoring Activities

Maintenance and monitoring activities will continue until all areas receive signoff.

Reach 5D was reseeded June 4, 2016, and thus could not be considered for signoff until the end of the 2018 growing season. Because access to Reach 5D is through the Mack Road Staging Area, this entire area was also not eligible for sign until the end of the 2018 growing season. Reach 8A Area 4 was reseeded November 30, 2016, following summer herbicide applications. Therefore, the required three full growing seasons for monitoring of this area is anticipated to end during fall 2019. Also, because smaller subareas are not considered separately for signoff, all other areas of Reach 8A will require monitoring through 2019. Reach 8B was eligible to be considered for signoff of herbaceous vegetation in fall 2018 as agreed upon by WCERT correspondence dated February 11, 2016. All reaches will be monitored and managed until performance standards are met and sign off is obtained. The upland savanna area of Reach 5E was reseeded in spring 2018; thus, it will not be eligible for sign off until fall of 2020.

Monitoring of trees and shrubs in the Mack Road Staging Area will continue until this area meets herbaceous performance criteria. At that time, discussions will be held with the Local Communities to determine the appropriate woody plant material replacement strategy. Monitoring of trees and shrubs in Reach 8B is contingent upon the resolution of the means and methods for replacing the woody plants. If replacements are required, planting and warranty assessments of the installed replacement plant material will be performed in 2020.

i

1.0 Introduction

This report presents the results of monitoring and maintenance activities that were performed during 2019 for the Kress Creek / West Branch DuPage River Site in DuPage County, Illinois. Monitoring activities were performed by Applied Ecological Services, Inc. (AES) and SmithGroup on behalf of the West Chicago Environmental Response Trust (WCERT) to characterize the status of restored habitats following the completion of remedial activities and were performed in accordance with the approved *Conceptual Mitigation and Restoration Design Plan* (BBL, 2005) with approved changes or clarifications as documented below. The 2019 monitoring results were compared to performance standards to determine if restored habitats were performing as designed, or if adaptive management maintenance activities should be implemented to achieve performance standards. Signoff is requested for Reaches 8A and 8b.

1.1 Overall Project History

From 1932 to 1973, the Rare Earths Facility in West Chicago processed radioactive thorium and other elements from ores and sands. Wastes from the facility contaminated Kress Creek, the West Branch of the DuPage River, and other local sites which collectively were designated by the USEPA as the Kress Creek Superfund Site. The site has been divided into several different sections or "Reaches" as described below:

- Reach 1: Kress Creek from the storm sewer outfall south of Roosevelt Road to May Street.
- Reach 2: Kress Creek from May Street to Joy Road.
- Reach 3: Kress Creek from Joy Road to Route 59.
- Reach 4: Kress Creek from Route 59 to the confluence with the West Branch DuPage River (WBDR).
- Reach 5A: WBDR from West Chicago Wastewater Treatment Plant to Gary's Mill Road.
- Reach 5B: WBDR from Gary's Mill Road to confluence with Kress Creek.
- Reach 5C: WBDR from the confluence with Kress Creek to Mack Road.
- Reach 5D: WBDR from Mack Road to River Oaks subdivision.
- Reach 5E: WBDR from River Oaks subdivision to Williams Road.
- Reach 6: WBDR from Williams Road to Butterfield Road.
- Reach 7: WBDR from Butterfield Road to Warrenville Dam.
- Reach 8A: WBDR from Warrenville Dam to approximately 2,200 feet upstream of McDowell Dam.
- Reach 8B: WBDR from Reach 8A to McDowell Dam.

Cleanup at the site began in Reach 5B and progressed through 2013 when the last of the work was completed at Reach 8B, the Bower Elementary School site in Reach 8A, and the Route 59 Bridge over Kress Creek. Per the *Conceptual Mitigation and Restoration Design Plan*, post-construction monitoring of streambanks and restored public land is required for a minimum of three years (BBL, 2005). This monitoring is ongoing for certain reaches as described in Section 2.0 below. Monitoring of residential and commercial sites was required for one year following construction and has been completed for all Reaches.

Due to Federal funding issues, the project went through an orderly shutdown on June 1, 2014, and no maintenance or monitoring activities were conducted until August 2015 as documented by the 2015 Annual Monitoring Report. Maintenance and monitoring continued in 2016 through 2019, as documented in the 2016, 2017, and 2018 Annual Monitoring Reports. This report documents the project activities for the 2019 season.

2.0 Agency Meetings, Correspondence and Key Decisions

Representatives from AES, SmithGroup and Tallgrass communicated with WCERT and the Local Communities (all five entities collectively, the Team) during 2019 to facilitate a mutual understanding of the status of monitoring and management activities. Important meetings, correspondence, and key decisions are summarized below:

- April 6-9, 2019: Tallgrass sent the 2019 burn plan for Reach 5e and notice that a burn was planned for Tuesday April 9th to the Local Communities, AES, and WCERT, along with a copy of the burn permit. Follow-up communications from the Local Communities included reminders as to contact procedures before and after burning.
- April 12 – April 15, 2019: SmithGroup and Tallgrass coordinated the dates for the tree staking review onsite at the McDowell Grove and Mack Road sites for April 22nd.
- April 22, 2019: The Local Communities sent on to AES, Tallgrass, and WCERT guidance on posting herbicide signage while using herbicide on Forest Preserve properties and a notice that harvesting of natural resources is prohibited on Forest Preserve property.
- May 1-2, 2019: Email communication between SmithGroup and the Team regarding tree staking at McDowell Grove and the Mack Road site, including diagrams of the 2019 tree staking for Reach 8 and the Mark Road Staging Area and a notice to proceed from WCERT regarding on resetting 215 stakes.
- May 2, 2019: AES sent a site inspection memo from April 24 to WCERT, SmithGroup, and Tallgrass.
- May 6-7, 2019: Tallgrass sent an update to AES, SmithGroup, and WCERT confirming that they were able to spray the previously-tilled portion of 5d the week of April 29th and notifying them of their plans to begin tree staking work at McDowell Grove on May 8th.
- May 9, 2019: Tallgrass updated AES, SmithGroup, and WCERT that the stake repair/removal work was nearly finished. The crew was unable to complete the work on trees located in Reach 8, area 11 (near the McDowell Grove parking lot) due to the river's high waters with most of those trees in standing water making proper installation difficult. 90% of the tree work was completed and Mike at Tallgrass confirmed he would personally finish the work in the coming week or two as waters recede.
- May 22, 2019: Tallgrass let AES, SmithGroup, and WCERT know that Tallgrass spread seed mix at Reach 5d and Reach 8, Pod R8-3 and that they delayed finishing the staking at McDowell Grove due to ongoing high-water levels.
- June 4, 2019: AES informed WCERT by email that we would be conducting our spring monitoring the next two days and that Tallgrass will be mowing Reach 5E soon.
- June 6-7, 2019: Tallgrass notified the Team they would be out on site on June 7th. During the site visit, they spot-herbicided RCG, non-native bromes, clovers, thistles, moneywort, and weedy woody re-sprouts at Reach 5d, the water's edge portion of 5e, Pod R8-3, and Reach 8, areas 4, 5, and 6. The non-water edge portions of 5e were mowed to a height of approximately 8 inches. AES emailed Tallgrass management recommendations (based on their recent monitoring trip) on June 7.
- June 12, 2019: Tallgrass updated the Team that they were able to complete the initial stewardship visit for Areas 11 and 12 on Monday, June 10th.
- June 19, 2019: Email from Tallgrass notifying the Team of live plant plug installations planned for Reach 8, Area 4 on the following day and that the tree staking along the river's edge at Reach 8, Areas 11 and 12 would also be completed. Also on June 19th, AES sent WCERT, SmithGroup, and Tallgrass their completed Native Vegetation Management Inspection Report for all WCERT sites for site visits occurring on June 5, 6 and 12.

- July 1, 2019: Tallgrass informed the Team that weed control work at Reach 8, Area 12 (McDowell Grove) and at Reach 5e was scheduled over the following two days.
- July 9-11, 2019: AES and SmithGroup received from WCERT formal comments from the Local Communities on the 2018 Annual Monitoring report (dated 7/2/19). Comments included a request for more information regarding modifications to a seed list at 5E, calculations related to tree survivorship, and guidance on potential sign-off for Reaches 8A, 8B, and 5D.
- July 10-18, 2019: AES and SmithGroup shared and discussed responses to Local Communities comments with WCERT.
- July 11, 2019: Email from Tallgrass notifying the Team that watering of the wet prairie plugs at Reach 8, Area 4 was planned for the following day.
- July 25-26, 2019: AES provided Tallgrass, SmithGroup, and WCERT with updated management recommendations for all sites based on a site visit that occurred on July 19th. Tallgrass followed up with the group to let them know of follow-up work based on the report that would occur at 5e and portions of Reach 8, Area 12, as well as watering planned for Reach 8, Area 4 for the previously installed plugs.
- August 1, 2019: SmithGroup confirmed with AES and WCERT their planned tree monitoring for August 5th.
- August 13, 2019: AES sent WCERT, SmithGroup, and Tallgrass their completed Native Vegetation Management Inspection Report for all WCERT sites for site visits occurring on July 19th.
- August 14-16, 2019: Tallgrass sent a series of emails to AES, SmithGroup, and WCERT confirming management work completed on the 15th and 16th, including performing spot mowing at Reach 5e and Reach 8, Areas 11 and 12, with planned completion of Reach 5d, Pod 8-3 and Reach 8, Areas 4,5, and 6 on August 19th.
- August 14, 2019: Representatives from AES, WCERT, and the Local Communities met to review the Local Communities' comments on the 2018 Annual Monitoring Report.
- August 19, 2019: WCERT emailed the Local Communities a letter (dated 8/16/19) in response to their comments on the 2018 Annual Monitoring Report.
- August 30, 2019: AES emailed WCERT confirming that we would be conducting our annual monitoring on September 3 and 4.
- September 20-24, 2019: Tallgrass notified the Team of additional weed control work onsite at Reach 8, Areas 11 and 12, as well as Reach 5d and Pod R8-3 that occurred on September 23 and 24.
- September 24, 2019: SmithGroup sent WCERT and AES a detailed assessment of the 2019 tree and shrub assessments in relation to survivorship and detailed questions for the Local Communities ahead of an upcoming meeting.
- September 25, 2019: AES sent WCERT and Smith Group a summary of the vegetation data from 2019 and previous years to review in the call the next day.
- September 26, 2019: WCERT, AES, and SmithGroup had pre-meeting call for the Walk Through with the Local Communities scheduled for October 2. AES sent out a summary of the call later that day.
- September 30, 2019: SmithGroup sent summary of 2019 tree and shrub data to WCERT and AES.
- October 1, 2019: WCERT sent the Local Communities and USEPA vegetation monitoring and tree and shrub survivorship results table and maps for the on-site meeting the next day.
- October 2, 2019: WCERT, AES, SmithGroup, and the Local Communities met onsite on October 2, 2019 to conduct a Sign Off Walk Through on Reaches 8A and 8b.
- October 18: AES sent SmithGroup and WCERT a memo summarizing and documenting the Sign Off Walk-Through meeting on October 2, 2019 for their review.

- October 25, 2019: WCERT sent the Local Communities, SmithGroup, AES, and USEPA a memo from AES summarizing and documenting the Sign Off Walk-Through meeting on October 2, 2019.
- October 28, 2019: Local communities responded to WCERT Walk Through memo by email with points of clarification on how signoff could be achieved for Reach 8A and 8B and specific recommendations for tree and shrub replacement strategies for Reach 8B.
- October 31, 2019: WCERT responded to the Local Communities and said that we will incorporate their suggestions for Reach 8 sign off in the 2019 Monitoring report but will get back to them about tree and shrub survivorship sign off requirements.
- November 13, 2019: Tallgrass sent an email to the Team confirming supplemental seeding of Reaches 5E, and Reach 8A (Pod 8-3, Areas 4-6) would take place on November 14.
- November 14, 2019: Local Communities responded by email to WCERT's 8/16/19 response letter to their comments on the 2018 Annual Report. They are requiring that the modified savanna seed mix for Reach 5E be included in the report and that the 2015 tree and shrub survivorship data remain the same.
- November 15, 2019: WCERT responded to the Local Communities and said these changes will be made to the 2018 report.

2.1 Status of Restoration and Monitoring by Reach

Table 2.1 Summary of the Status of each Reach for Monitoring Activities and Agency Signoff

Reach or Area	Monitoring Period Start Date	Certified Completion of Monitoring	Comments
Reach 1	10.2.2007	12.15.2010	
Reach 2	10.2.2007	12.15.2010	
Reach 3A	10.2.2007	12.15.2010	
Reach 3B	11.27.2007	9.11.2012	
Reach 4	11.27.2007	9.11.2012	
Reach 5A	08.11.2006	9.11.2012	
Reach 5B	06.25.2008	9.11.2012	
Reach 5C	11.17.2008	9.11.2012	
Reach 5D	11.24.2008	9.11.2012	Excludes Mack Road / Reach 5D Upland Savanna
Reach 5E	11.24.2008	Ongoing	
Reach 6	08.24.2009	11.12.2013	
Reach 7	9.20.2012	April 2016	
Reach 8A	9.20.2012	Ongoing	Sign off requested for 2020
Reach 8A – Bower Elementary	10.28.2013	Ongoing	Requested sign off on 2017 report
Reach 8B	09.25.2015	Ongoing	Sign off requested in 2020
Mack Road Staging Area	6.8.2012	Ongoing	Includes Reach 5D Upland Savanna
Route 59 Bridge Area	12.7.2012	April 2016	

Based on the meetings held with Agency staff, below is a summary of the areas identified with ongoing monitoring activities for 2019. These areas are also documented for individual locations within each Reach on base maps in Exhibit A.

Reach 5E
Herbaceous: Full Performance Standards required
Tree / Shrub Survival: Monitoring completed, 2010
Restored Banks: Monitoring completed, 2011

Reach 8A
Herbaceous: Full Performance Standards required in areas shown on Exhibit A
Tree / Shrub Survival: N/A
Restored Banks: Monitoring completed, 2016

Reach 8B
Herbaceous: Full Performance Standards required in areas shown on Exhibit A
Tree / Shrub Survival: Monitoring required in areas shown on Exhibit C
Restored Banks: The County inspected these areas in June 27, 2018 with the Local Communities and recommended sign off. No monitoring was completed in 2019

Mack Road Staging Area and Reach 5D Upland Savanna
Herbaceous: 90% Native Cover for Mack Road Staging Area; Full Performance Standards required for Reach 5D Upland Savanna.
Tree / Shrub Survival: Monitoring required for Mack Road Staging Area.
Restored Banks: N/A

3.0 Maintenance, Management and Monitoring Activities

3.1 Maintenance and Management Events

Following a year of no maintenance during 2014 due to lack of federal funding, maintenance and management activities resumed during late summer / fall 2015. Tallgrass Restoration, LLC, with oversight by SmithGroup staff, completed maintenance tasks during August and September of 2015. Tallgrass Restoration, LLC, with oversight by AES and SmithGroup staff, completed maintenance tasks from early spring through fall / early winter of 2016, 2017, and 2018. Primary maintenance tasks during 2019 consisted of prescribed burning, broadcast and spot-herbiciding invasive weeds, over-seeding with native mixes, and mowing. Table 3.1 summarizes management activities that occurred during 2019. See Appendix A for copies of field reports.

3.2 Monitoring Events

Monitoring herbaceous vegetation and woody plant material occurred over several visits as described below:

- Trees and Shrubs: Monitored August 5-6, 2019 per methods described below.
- Quantitative Herbaceous Monitoring: Monitored September 4 and 5, 2019, per methods described below.
- Floristic Inventories: Inventoried June 5 and July 12, and during quantitative herbaceous monitoring September 4 and 5, 2019, per methods described below.

3.3 Management Activities

Management of areas within each reach is summarized below. More detailed lists of these activities are found in Table 3.1 and Appendix A.

<u>Reach 5E</u>

- The site was burned on April 9, mowed on June 7, and spot mowed on July 29. Reed canary grass (RCG) and other weeds were spot-herbicided along the river on June 7, and hairy cup grass, thistle, clover and other invasive species were spot-herbicided three times throughout the site on (July 3, July 29, and September 24).

<u>Reach 8A</u>

- Pod R8-3. Native woodland seed mix was installed on May 22. Site was selectively herbicided on June 7 targeting RCG and other weeds. Stickseed and ragweed were spot mowed, and burdock, buckthorn and purple loosestrife were spot-herbicided on August 19. Woody invasives were cut and treated on September 24. A bare area at north end of woodland was over-seeded with bottlebrush grass and Virginia wild rye on November 14.

- Area 4. Spot-herbiciding of RCG and other weeds was completed on June 7. Six hundred (600) wet prairie plugs were installed and watered on June 19 and watered again on July 12. Selective mowing of ragweed, Queen Anne's lace, black mustard, sow thistle, and other weeds, and selective herbiciding of purple loosestrife, RCG, moneywort, buckthorn, honeysuckle, and box elder was completed on August 19 in Areas 4, 5 and 6. Small bare areas were over-seeded with wetland and open floodplain seed mixes on November 14.

- Areas 5 & 6. RCG, purple loosestrife and other weeds were herbicided on June 7, and many of the same species managed in Area 4 were selectively herbicided or mowed in these areas on August 19. Small bare areas were over-seeded with wetland and open floodplain seed mixes on November 14.

Reach 8B

- Area 11. This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. Protective fencing around trees and shrubs were repaired or removed on May 9. Selective herbiciding of many of the same weeds found in Area 12 was completed four times throughout the season (June 10, July 2, August 16, and September 23). Selective mowing was also completed on August 16 and August 19 for some of the same weedy species found in Area 12.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. Protective fencing was removed or repaired around trees and shrubs on May 9. The site was selectively herbicided for cover, sweet clover, thistle, RCG, *Phragmites*, hairy cup grass, and other weeds on the same four days as Area 11 (June 10, July 2, August 16, September 23). Selective mowing was also completed on August 16 and August 19 for ragweed, Queen Anne's Lace, foxtail, and black mustard.

The Mack Road Staging Area

- Protective fencing around trees and shrubs were repaired or removed on May 8. No other management occurred in this area.

Reach 5D Upland Savanna

- Cool season grasses at the west end of the area were rototilled on April 11, herbicided on May 3, and seeded with the upland savanna mix on May 22. Protective fencing around trees and shrubs were also repaired or removed in this area on May 8. Selective herbiciding of clover, cheat grass and other cool season grasses was completed on June 7. The west end of the site was reseeded with wild rye and native forbs on June 26. Honeysuckle and buckthorn and mowed Queen Anne's lace, wooly cup grass, fox tail, sweet clover, and ragweed were spot-herbicided on August 19. On September 24 sweet clover was mowed and thistle and woody resprouts were herbicided. Small bare areas were over-seeded on November 14 with a native savanna grass species.

Table 3.1 Summary of Site Inspections and Specific Maintenance and Management Tasks Completed During 2019

Date	Location	Activities	**Notes**
4.9.2019	Reach 5E	Rx Burn	**See "Tallgrass Restoration Prescription Burn Plan", Appendix A**
4.11.2019	Reach 5D Upland Savanna	Rototilled patches of cool season grasses	**See "2019 WCERT Field Reports", Appendix A**
4.22.2019	Mack Rd. and Reach 8B	Marking tree stake resetting or removal	**See "2019 WCERT Field Reports", Appendix A**
4.24.2019	Reaches 5D & 5E	Site Inspection	**See" WCERT Native Vegetation Management Inspection Report" May 1, 2019 , Appendix A**
5.3.2019	Reach 5D	Herbicide	**See "2019 WCERT Field Reports", Appendix A**
5.8.2019	Mack Road, Reach 5D	Repaired and removed protective tree fencing.	**See "2019 WCERT Field Reports", Appendix A**
5.9.2019	Reach 8, areas 11 and 12	Repaired and removed protective tree fencing.	**See "2019 WCERT Field Reports", Appendix A**
5.22.2019	Reach 5D, Pod R8-3	Seeding	**See "2019 WCERT Field Reports", Appendix A**
6.5.2019, 6.6.2019, 6.12.2019	Reaches 5D. 5E, 8A, 8B	Site Inspection	**See" WCERT Native Vegetation Management Inspection Report" June 19, 2019, Appendix A**
6.5.2019	Reaches 5D. 5E, 8A, 8B	Monitoring	**See "2019 WCERT Field Reports", Appendix A**
6.7.2019	5D, 5E, Pod R8-3, Reach 8 areas 4,5,6	Herbicide	**See "2019 WCERT Field Reports", Appendix A**
6.7.2019	Reach 5E	Mowing	**See "2019 WCERT Field Reports", Appendix A**
6.10.2019	Reach 8, areas 11 and 12	Herbicide	**See "2019 WCERT Field Reports", Appendix A**
6.19.2019	Reach 8, area 4	Wet prairie plugs (600) installation	**See "2019 WCERT Field Reports", Appendix A**
6.26.2019	Reach 5D Upland Savanna	Reseed west end with wild rye and forbs	**See "2019 WCERT Field Reports", Appendix A**
7.2.2019	Reach 8, areas 11 and 12	Herbicide	**See "2019 WCERT Field Reports", Appendix A**
7.3.2019	Reach 5E	Herbicide	**See "2019 WCERT Field Reports", Appendix A**
7.12.2019	Reach 5E	Site Inspection	**See "2019 WCERT Field Reports", Appendix A**
7.12.2019	Reach 8, area 4	Watered wet prairie plugs	**See "2019 WCERT Field Reports", Appendix A**

7.19.2019	Reaches 5D. 5E, 8A, 8B	Site Inspection	**See" WCERT Native Vegetation Management Inspection Report" August 13, 2019, Appendix A**
7.29.2019	Reach 5E	Selective mowing and herbiciding	**See "2019 WCERT Field Reports", Appendix A**
8.16.2019	Reach 8, areas 11 and 12	Seletive mowing and herbiciding	**See "2019 WCERT Field Reports", Appendix A**
8.19.2019	Reach 8, areas 11 and 13	Selective mowing	**See "2019 WCERT Field Reports", Appendix A**
8.19.2019	Reach 5D, Pod R8-3, Reach 8A, areas 4,5,6	Selective mowing and herbiciding	**See "2019 WCERT Field Reports", Appendix A**
09.04.2019, 09.05.2019	Reaches 5D. 5E, 8A, 8B	Monitoring	**See "2019 WCERT Field Reports", Appendix A**
9.23.2019	Reach 8, areas 11 and 12	Herbicide	**See "2019 WCERT Field Reports", Appendix A**
9.24.2019	Pod R8-3	Cut and treat woody invasives	**See "2019 WCERT Field Reports", Appendix A**
9.24.2019	Reach 5D	Mowing	**See "2019 WCERT Field Reports", Appendix A**
9.24.2020	Reaches 5D, 5E	Herbicide	**See "2019 WCERT Field Reports", Appendix A**
11.14.2019	Reach 5D, Pod R8-3, Reach 8 areas 4, 5, 6	Seeding	**See "2019 WCERT Field Reports", Appendix A**

4.0 Monitoring Methods

4.1 Herbaceous Species

Herbaceous species were monitored along transects during September 4 and 5, 2019. Herbaceous species were monitored per the Plan except that quadrats were located along transects as is generally accepted by regulatory agencies in the region. This modified protocol was approved per a June 11, 2015 email to the USEPA and Local Communities' representatives. The location and number of quadrats per transect is included as Exhibit B.

4.2 Tree and Shrub Survival

Chapter seven of the monitoring plan states that shrub survival shall be monitored in three randomly located 25-square meter plots per acre, and tree survival shall be monitored in one 100-square meter plot per acre. Revised woody plant restoration requirements were established during 2015 to assist with the establishment of herbaceous vegetation and to prevent an overabundance of plantings with remaining trees that did not meet acceptable form. For plantings on property owned by the FPDDC, the agreed upon action items and assessment criteria are as follows:

- All trees noted as dead during the monitoring period will be allowed to remain in place. Removal is not necessary.
- All trees noted as re-growing from root or tree leader dead during the monitoring period will be allowed to remain in place. No pruning, removal, or future maintenance and monitoring is required for these plants.
- Plants found to be in acceptable condition in the 2015 assessment are the new baseline for maintenance and monitoring for each reach. Therefore, 90% survival of these plants is the criteria for acceptance, and full maintenance and monitoring is required.*
- Tree and shrub replacements for plants not meeting acceptance criteria during 2015 shall be replaced at the completion of the maintenance and monitoring period for each reach as a punch list item. FPDDC will provide planting locations for installation of the replacement plants. The geographic origin of all plant materials shall be within a 100-mile radius of the project area. No maintenance and monitoring will be required for the replacements.
- Upon final signoff of each reach, all tree and shrub protection shall be removed.

*Amendment to bullet three listed above: The quantity of acceptable plants identified in the 2015 assessment was modified in the 2017 Annual Report to exclude trees and shrubs within the bridge construction zone at McDowell Woods in Reach 8, which were removed from WCERT's responsibility.

Annual tree and shrub survival monitoring was completed during August 5-6, 2019, and included the following locations:

- Reach 8B: Areas 11 and 12 as noted on Local Communities release memorandum dated September 27, 2013.
- Mack Road Staging Area: Entire staging area including Reach 5D Upland Savanna habitat.

During the monitoring, survival was determined by visual assessment of the plant material, using the following criteria established during 2015 by the project team and agency staff:

Replace any plants that are damaged, dead, or, in the opinion of the Owner's Representative, with concurrence from the Local Communities, are unhealthy, or have lost more than 25% of their natural shape due to dead branches, excessive pruning or improper maintenance.

Diagrams were created to document the condition of each individual plant installed per the record drawings, as shown in Exhibit C. The recorded conditions were characterized as follows:

- Acceptable Condition: Plant condition and form meets the criteria outlined above. Only plants that were coded as "Acceptable Condition" were considered to have "survived" for the percent survival calculation.
- Plant Dead: Entire plant was observed to be dead.

The diagrams in Exhibit C show all plant material currently in acceptable condition, as well as notations for plants that changed status to dead in 2019. For clarity of the diagrams, all plants that were previously coded as unacceptable in 2015, 2016, 2017 or 2018 are shown by outline only, with notes provided for clarity if the vegetation may be obscured by adjacent symbols.

4.3 Restored Banks

Bank monitoring was required to be performed for three years following construction with at least one event occurring after a storm that equals or exceeds the bankfull discharge (approximately 2-year recurrence interval). The *Conceptual Design Report* (BBL, 2002) indicates 1,090 cubic feet per second (cfs) as the 2-year storm flow for the West Branch of the DuPage River based on data from US Geological Survey Gage #5540094 located near the Warrenville Dam. Restoration of the banks within the Reach 8A and 8B study area was completed during November 2013. Two areas on Ferry Creek along the east and south side of Reach 8, Area 12 were repaired and stabilized in July 2017.

The primary metric for restored banks is visual stability. Instability is noted as erosion features that threaten the integrity of the banks or in-stream structure. The limits of the "bank" extend from the toe of the slope to the break in the slope. Signs of erosion include undercutting, lateral erosion above rock toe protection, exposed geotextile fabric, or vertical erosion down the face of the bank from overland flows. Stability is evaluated based on observations of the bank and in-stream structures as compared to design drawings, considering location in the stream, physical dimensions, and consistency with adjacent, undisturbed banks.

Stream banks in Reach 8A were monitored through 2016 (three years after restoration) and were determined to be stable. The two areas in Reach 8B, Area 12 repaired in 2017 were monitored in 2018 following three two-year storm event and remained stable. The County inspected these areas in June 27, 2018 with the Local Communities and recommended sign off. No bank monitoring was completed in 2019.

5.0 Monitoring Results

The results of the monitoring activities performed during 2019 in Reaches 5E, 8A, 8B, the Mack Road Staging Area, and Reach 5D Upland Savanna are presented as follows on a reach-specific basis. 2019 vegetation monitoring results are found in Table 5.1. Invasive weeds are those found on the Midwest Invasive Plant Network's Midwest Invasive Plant List for Illinois (MIPN 2019; Appendix E).

Table 5.1 2019 Vegetation Monitoring Results by Reach and Management Recommendations for 2020

Reach	Performance Standard	2019 Results			2020 Management Recommendations	Recommend Signoff?
5E	90% cover	80.3%			Burn in Spring and overseed with forbs and native grasses.	Sign off not recommended. Only one of two performance criteria met. Site reseeded last spring (2018).
	<5% weeds	0.37%				
	Evaluation Metrics					
	Native C > 3.5	3.3				
	Native FQI	35.81				
	Native RIV	55.9				
	C, FQI, and RIVI increase	No				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SETPUM	23.7	No		
		ERIVIL	11.9	No		
		ANDGER	6.8	Yes		

Reach	Performance Standard	2019 Results			2020 Management Recommendations	Recommend Signoff?
8A	90% cover	113.77%			No Recommendations	Sign off recommended. Reach met both performance standards and three of four evaluation metrics.
	<5% weeds	0.73%				
	Evaluation Metrics					
	Native C > 3.5	2.89				
	Native FQI	28.74				
	Native RIV	93.9				
	C, FQI, and RIV increase	No				
	No Bare ground ≥ 0.5 square meter	Yes				
	3 most dominant species native?	Species	RIV	Native?		
		RUDTRI	17.4	Yes		
		SYMLAN	9.5	Yes		
		PHYVIR	8.7	Yes		

Reach	Performance Standard	2019 Results			2020 Management Recommendations	Recommend Signoff?
8B	90% cover	104.85%			No Recommendations	Sign off is recommended. Reach met both performance standards and two of four evaluation metrics.
	<5% weeds	0.55%				
	Evaluation Metrics					
	Native C > 3.5	3.7				
	Native FQI	55.1				
	Native RIV	81.1				
	C, FQI, and RIVI increase	Yes				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		SOLCAN	9.5	Yes		
		SORNUT	7.5	Yes		
		ANDGER	6.1	Yes		

Reach	Performance Standard	2019 Results			2020 Management Recommendations	Recommend Signoff?
Mack Road Staging Area	90% native cover	104.52%			Spot herbicide non-native species.	Recommended when Reach 5D meets all standards.
5D Upland Savanna	**Performance Standard**				Burn in Spring and overseed with Virginia wild rye and Canada wild rye. Install several hundred plugs of forbs.	Sign off not recommended. Site met only one of two performance standards in 2019.
	90% cover	76.08%				
	<5% weeds	0.81%				
	Evaluation Metrics					
	Native C > 3.5	3.29				
	Native FQI	21.08				
	Native RIV	67.9				
	C, FQI, and RIV increase	No				
	No Bare ground ≥ 0.5 square meter	No				
	3 most dominant species native?	Species	RIV	Native?		
		ERIVIL	14.4	Yes		
		SORNUT	8.5	No		
		ELYVIR	9.6	Yes		

Table 5.2 2015-2019 Vegetation Monitoring Results by Reach

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
5E	90% cover	114.00%			N/A			82.70%			81.46%			80.29%			-33.71%
	<5% weeds	56.30%			N/A			21.50%			28.48%			0.37%			-55.93%
	Evaluation Metrics																
	Native C > 3.5	3.06			N/A			3.19			3.00			3.30			0.24
	Native FQI	25.22			N/A			33.47			30.00			35.81			10.59
	Native RIV	56.5			N/A			45.0			54.0			55.9			-0.6
	No Bare ground ≥ 0.5 square meter	Yes			N/A			No			No			No			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	1/3 Species Native
		POAPRA	17.0	No	N/A	N/A	N/A	TRIHYB	15.0	No	SETPUM	17.8	No	SETPUM	23.7	No	
		SYMLAN	11.0	Yes	N/A	N/A	N/A	DAUCAR	7.7	No	PANCAP	5.4	Yes	ERIVIL	11.9	No	
		ANDGER	6.6	Yes	N/A	N/A	N/A	ERIANN	6.8	Yes	AMBART	5.0	Yes	ANDGER	6.8	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
8A	90% cover	90.15%			61.50%			90.10%			79.54%			113.77%			23.62%
	<5% weeds	30.65%			14.76%			4.25%			2.64%			0.73%			-29.92%
	Evaluation Metrics																
	Native C > 3.5	2.93			2.93			3.29			3.19			2.89			-0.04
	Native FQI	25.05			25.4			35.84			34.71			28.74			3.69
	Native RIV	62.2			77.6			83.7			87.1			95.2			33
	No Bare ground ≥ 0.5 square meter	No			No			No			No			Yes			No bare round >.5 m
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	3/3 Species Native
		PHAARU	12.5	No	SYMLAN	16.0	Yes	RUDTRI	12.0	Yes	SYMLAN	9.4	Yes	RUDTRI	17.4	Yes	
		SOLALT	10.8	Yes	GLEHED	12.0	No	EUPSER	9.3	Yes	RUDLAC	7.7	Yes	SYMLAN	9.5	Yes	
		SYMLAN	9.9	Yes	RUDSUB	6.5	Yes	SYMLAN	6.5	Yes	PHYVIR	6.6	Yes	PHYVIR	8.7	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
8B	90% Cover	105.00%			94.30%			98.90%			92.24%			104.85%			-0.15%
	<5% weeds	24.15%			16.10%			14.05%			6.46%			0.55%			-23.60%
	Evaluation Metrics																
	Native C > 3.5	3.72			3.12			3.87			3.74			3.7			-0.02
	Native FQI	44.76			33.21			55.24			52.79			55.1			10.34
	Native RIV	70.8			74.9			78.1			78.4			81.1			10.3
	No Bare ground ≥ 0.5 square meter	No			No			No			No			No			No change
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	3/3 Species Native
		SOLALT	10	Yes	SOLCAN	8.0	Yes	SOLCAN	9.5	Yes	SOLCAN	9.5	Yes	SOLCAN	9.5	Yes	
		ELYVIR	4.7	No	ELYCAN	4.6	Yes	SORNUT	8.3	Yes	SORNUT	8.7	Yes	SORNUT	7.5	Yes	
		POAPRA	4.2	Yes	ELYVIR	4.5	Yes	SYMLAN	5.4	Yes	ELYVIR	7.0	Yes	ANDGER	6.1	Yes	

Reach	Performance Standard	2015 Results			2016 Results			2017 Results			2018 Results			2019 Results			Change From 2015
Mack Road Staging Area	90% native cover	85.20%			93.10%			87.30%			96.37%			104.52%			19.32%
5D Upland Savanna	**Performance Standard**																
	90% cover	N/A			79.00%			95.20%			79.15%			76.08%			-2.92%
	<5% weeds	N/A			40.08%			10.08%			21.85%			0.81%			-39.27%
	Evaluation Metrics																
	Native C > 3.5	N/A			1.46			3.19			3.39			3.29			1.83
	Native FQI	N/A			12.07			23.21			24.9			21.08			9.01
	Native RIV	N/A			34.5			47.6			53.2			67.9			33.4
	No Bare ground ≥ 0.5 square meter	N/A			No			Yes			No			.			N/A
	3 most dominant species native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	Species	RIV	Native?	2/3 Species Native
		N/A	N/A	N/A	PASLAE	10.9	No	ERIVIL	24.6	No	ELYCAN	14.3	Yes	ERIVIL	14.4	No	
		N/A	N/A	N/A	AVESAT	9.3	No	ELYCAN	14.9	Yes	POAPRA	12.1	No	SORNUT	8.5	Yes	
		N/A	N/A	N/A	POAPRA	8.7	No	RUDSUB	7.3	Yes	RUDSUB	9.2	Yes	ELYVIR	9.6	Yes	

*Native C, Native FQI, and Native RIV are the only Evaluation Metric that must improve from Year 1 to Year 3 per the Maintenance and Monitoring Plan.

Invasive Weed List source:

2019- Midwest Invasive Plant Network (MIPN). 2019. Midwest Invasive Plant List. https://www.mipn.org/plantlist/ Accessed 9/20/2019.

2018- Midwest Invasive Plant Network (MIPN). 2018. Midwest Invasive Plant List. https://www.mipn.org/plantlist/ Accessed 11/20/2018.

5.1 Reach 5E

Herbaceous Vegetation

Performance Standards:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual cover: 80.29%
Actual cover of invasive weeds: 0.37%

Evaluation Metrics:

- Native Mean C ≥3.5 during year three
- Native Mean C, FQI, and native RIV must increase from year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value: 3.30
Native FQI: 35.81
Native RIV: 55.5

Top five species RIV:

- Yellow foxtail (Setaria pumila) 23.7
- Hairy cupgrass (*Eriochloa villosa*) 11.9
- Big bluestem (*Andropogon gerardii)* 6.8
- Brown-eyed Susan (*Rudibeckia triloba*) 5.8
- Eastern daisy fleabane (*Erigeron annuus)* 4.4

One performance standard and no evaluation metrics were met in Reach 5E. **Signoff is not recommended.**

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

Tree and Shrub Survival

The 2012 Annual Monitoring Report final document stated: "The tree and shrub survival performance standard was met on government property during 2010 and further woody plant monitoring requirements were terminated in accordance with ICN No.13 (Page 9)." Therefore, tree and shrub monitoring was not conducted in Reach 5E during 2019.

Restored Banks

The third year of required bank monitoring for Reach 5E was completed during 2011 and all banks were concluded to be stable. Therefore, no bank monitoring was performed in Reach 5E during 2019.

5.2 Reach 8A

Herbaceous Vegetation

Performance Standards:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual cover:	113.77%
Actual cover of invasive weeds:	0.73%

Evaluation Metrics:

- Native Mean C ≥3.5 during year three
- Native Mean C, FQI, and native RIV must increase from year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value:	2.89
Native FQI:	28.74
Native RIV:	93.9

Top five species RIV:

- Brown eyed Susan (*Rudbeckia triloba*) 17.4
- White panicled aster (*Symphyotrichum lanceolatum*) 9.5
- Obedient plant (*Physostegia virginiana)* 8.7
- Water pepper (*Persicaria hydropiper*) 7.4
- Virginia wild rye (*Elymus virginicus)* 5.7
- Canadian clearweed (*Pilea pumila)* *5.7*

Both performance standards and two of four evaluation metrics were met in Reach 8A. **Signoff is recommended.**

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

5.3 Reach 8B

Herbaceous Vegetation

Performance Standards:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual cover: 104.85%
Actual cover of invasive weeds: 0.55%

Evaluation Metrics:

- Native Mean C ≥3.5 during year three
- Native Mean C, FQI, and native RIV must increase from year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value: 3.7
Native FQI: 55.1
Native RIV: 81.1

Top five species RIV:

- Canadian goldenrod (*Solidago canadensis*) 9.5
- Indian grass (*Sorghastrum nutans)* 7.5
- Virginia wild rye (*Andropoon gerardi)* 6.1
- Wild bergamot (*Monarda fistulosa)* 3.9
- Kentucky blue grass (*Poa pratensis)* 3.4

Both performance standard and two of four evaluation metrics were met. **Signoff is recommended.**

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

Tree and Shrub Survival

Tables 5.3 and 5.4 indicate individual species survival rates observed in Reach 8B on Forest Preserve property as compared to the 2015 baseline, with locations as documented by the diagrams in Exhibit C. Tables 5.5 and 5.6 provide additional details for plants coded in unacceptable condition for 2016, 2017, 2018 and 2019 including which plants were dead, were re-growing from the root, had a dead leader, or were missing.

Overall, woody plant material in the natural areas of Reach 8B had a 71% rate of survival, categorized as 67% survival of shrubs (139 of 206 plants) and 75% of trees (109 of 145). Since the 2018 monitoring period, the site lost an additional 5 shrubs and 4 trees. This overall rate of survival does not meet the established performance criteria of 90% survival. However, signoff for the site is being considered since the herbaceous vegetation meets performance criteria, pending negotiation with the Local Communities on replacement or reimbursement for the deficient woody plants.

Table 5.3 Survival Rates of Individual Tree Species in Reach 8B on Forest Preserve Property

Symbol	Scientific Name	Common Name	Initial Number Planted	Removed Due to 2017 Bridge	Total under WCERT Mgmt.	Cond. Accept. 2015	Cond. Accept. 2019	Percent Survived
AG	Aesculus glabra	Ohio Buckeye	11	1	10	8	7	88%
AT	Asimina triloba	PawPaw	11		11	9	7	78%
BN	Betula nigra	River Birch	23		23	22	14	64%
CAR	Carpinus caroliniana	Bluebeech	10		10	7	4	57%
CCO	Carya cordiformis	Bitternut Hickory	23		23	9	8	89%
COV	Carya ovata	Shagbark Hickory	19		19	13	11	85%
CO	Celtis occidentalis	Hackberry	4		4	2	1	50%
CEC	Cercis canadensis	Eastern Redbud	16	2	14	9	7	78%
JN	Juglans nigra	Black Walnut	4		4	1	1	100%
MR	Morus rubra	Red Mulberry	4		4	3	2	67%
OV	Ostrya virginiana	Ironwood	21		21	10	7	70%
PO	Platanus occidentalis	Sycamore	10	1	9	8	7	88%
QA	Quercus alba	White Oak	21		21	4	4	100%
QB	Quercus bicolor	Swamp White Oak	16		16	11	8	73%
QC	Quercus coccinea	Scarlet Oak	20		20	3	2	67%
QM	Quercus macrocarpa	Bur Oak	32	1	31	16	16	100%
QV	Quercus velutina	Black Oak	13		13	4	2	50%
SN	Salix nigra	Black Willow	19	1	18	6	1	17%
TOTALS			**277**	**6**	**271**	**145**	**109**	**75%**

Table 5.4 Survival Rates of Individual Shrub Species in Reach 8B on Forest Preserve Property

Symbol	Scientific Name	Common Name	Initial Number Planted	Removed Due to 2017 Bridge	Total under WCERT Mgmt.	Cond. Accept. 2015	Cond. Accept. 2019	Percent Survived
AF	Amorpha fruiticosa	Indigo Bush	21		21	20	13	65%
COC	occidentalis	Buttonbush	11		11	9	9	100%
CS	Cornus stolonifera	Dogwood	26	1	25	14	4	29%
CA	Corylus americana	American Hazelnut	38		38	35	33	94%
CCG	Crataegus crus-gali	Hawthorn	40		40	16	13	81%
CM	Crataegus mollis	Downy Hawthorn	21		21	4	2	50%
PA	Prunus americana	Wild Plum	20		20	9	6	67%
PT	Ptelea trifolitata	Wafer Ash	20		20	9	7	78%
RA	Ribes americanum	Wild Black Currant	11		11	9	8	89%
RS	Rosa setigera	Illinois Rose	20		20	19	15	79%
SD	Salix discolor	Pussy Willow	18		18	2	2	100%
SC	Sambucus canadensis	Elderberry	23		23	7	1	14%
VL	Viburnum lentago	Nannyberry	8		8	5	2	40%
VP	Viburnum prunifolium	Blackhaw	20		20	19	15	79%
XA	Xanthoylum americanum	Prickly Ash	30		30	29	9	31%
TOTALS			**327**	**1**	**326**	**206**	**139**	**67%**

Table 5.5 Recorded Unacceptable Conditions for Individual Tree Species in Reach 8B, 2016 - 2018

Sym.	Scientific Name	Common Name	Dead 2016-2018	Dead 2019	Missing 2016-2018	Missing 2019	Leader Dead 2016-2018	Leader Dead 2019	Regrow from Root 2016-2018	Regrow from Root 2019
AG	Aesculus glabra	Ohio Buckeye	1							
AT	Asimina triloba	PawPaw					2			
BN	Betula nigra	River Birch	8							
CAR	Carpinus caroliniana	Bluebeech	2	1						
CCO	Carya cordiformis	Bitternut Hickory	1							
COV	Carya ovata	Shagbark Hickory	2							
CO	Celtis occidentalis	Hackberry							1	
CEC	Cercis canadensis	Eastern Redbud	1	1						
JN	Juglans nigra	Black Walnut								
MR	Morus rubra	Red Mulberry	1							
OV	Ostrya virginiana	Ironwood	3							
PO	Platanus occidentalis	Sycamore							1	
QA	Quercus alba	White Oak								
QB	Quercus bicolor	Swamp White Oak	1	1	1					
QC	Quercus coccinea	Scarlet Oak					1			
QM	Quercus macrocarpa	Bur Oak								
QV	Quercus velutina	Black Oak	1					1		
SN	Salix nigra	Black Willow	4		1					
TOTALS			**25**	**3**	**2**	**0**	**3**	**1**	**2**	**0**

Table 5.6 Recorded Unacceptable Conditions for Individual Shrub Species in Reach 8B, 2016 - 2018

Symbol	Scientific Name	Common Name	Dead 2016-2018	Dead 2019	Missing 2016-2018	Missing 2019
AF	Amorpha fruiticosa	Indigo bush	4		3	
COC	occidentalis	Buttonbush				
CS	Cornus stolonifera	Dogwood	8	2		
CA	Corylus americana	Hazelnut	2			
CCG	Crataegus crus-gali	Hawthorn	3			
CM	Crataegus mollis	Downy Hawthorn	1		1	
PA	Prunus americana	Wild Plum	2		1	
PT	Ptelea trifolitata	Wafer Ash	2			
RA	Ribes americanum	Wild Black Currant	1			
RS	Rosa setigera	Illinois Rose	4			
SD	Salix discolor	Pussy Willow				
SC	Sambucus canadensis	elderberry	7			
VL	Viburnum lentago	Nannyberry	2		1	
VP	Viburnum prunifolium	Blackhaw	2		2	
XA	americanum	Prickly Ash	15	3	2	
TOTALS			**53**	**5**	**10**	**0**

5.4 Mack Road Staging Area and Reach 5D Upland Savanna

Mack Road Staging Area Herbaceous Vegetation

Monitoring results below apply to the Mack Road Staging Area. No management was conducted in this area during 2019.

Performance Standard:

- 90% native vegetative cover

Results:

Actual Cover:	104.52%
Native Cover	98.6%
Native Mean C value:	3.79
Native FQA:	27.46
Native RIV:	91.2

Top five species RIV:

- Big bluestem (*Andropogon gerardii*): 46.3
- Canadian goldenrod (*Solidago canadensis*) 13.9
- Indian grass (*Sorghastrum nutans*): 10.3
- Sawtooth sunflower (*Helianthus grosseserratus*) 4.6
- Wand panic grass (*Panicum virgatum*) 3.7

Mack Road Staging Area is meeting the standard of 90% native vegetation cover.

Mack Road Reach 5D Upland Savanna Herbaceous Vegetation

Performance Standard:

- 90% vegetative cover
- <5% cover of invasive weeds

Results:

Actual Cover: 76.1%
Actual cover of invasive weeds: 0.8%

Evaluation Metrics:

- Native Mean C ≥3.5 during Year three
- Native Mean C, FQI, and native RIV must increase from Year one to three after planting
- No areas > 0.5 m devoid of vegetation
- Three most dominant species native

Results:

Native Mean C value: 3.29
Native FQA: 21.08
Native RIV: 67.9

Top five species RIV:

- Hairy cupgrass (*Eriochloa villosa*): 14.4
- Virginia wild rye (Elymus virginicus) 9.6
- Yellow Indian grass (*Sorghastrum nutans*) 8.5
- Smooth oxeye (*Heliopsis heliantoides*) 7.3
- Brown-eyed Susan (*Rudbeckia triloba*) 5.2

Reach 5D met one out of two performance standards and one out of four evaluation metrics**. Signoff is not recommended for Reach 5D Upland Savanna and Mack Road Staging area**. However, Reach 5D Upland Savanna is a very small area and if conditions improve enough this season to meet both performance standards, a Pre-Certification Inspection will be requested.

Please see Appendices B, C and D for inventory and quadrat data, and representative photographs.

Tree and Shrub Survival

At the Mack Road Staging Area, individual species survival rates were observed as documented in Tables 5.7 and 5.8 and the diagrams in Exhibit C. Tables 5.9 and 5.10 provide additional details for plants coded in unacceptable condition for 2016, 2017, 2018 and 2019.

Overall, woody plant material at the Mack Road Staging Area had an 88% rate of survival, categorized as 82% survival of shrubs (133 of 162 plants) and 97% of trees (91 of 94). Since the 2018 monitoring period, the site lost an additional 3 shrubs and 1 tree. This overall rate of survival does not meet the established performance criteria of 90% survival. Therefore, **signoff is not recommended.**

Table 5.7 Individual Tree Species Survival Rates at the Mack Road Staging Area

Symbol	Scientific Name	Common Name	Initial Number Planted	Condition Acceptable 2015	Condition Acceptable 2019	Percent Survived
CCO	Carya cordiformis	Bitternut Hickory	27	19	18	95%
COV	Carya ovata	Shagbark Hickory	25	23	23	100%
JN	Juglans nigra	Black Walnut	3	3	3	100%
OV	Ostrya virginiana	Hophornbeam	25	21	20	95%
QA	Quercus alba	White Oak	38	7	7	100%
QM	Quercus macrocarpa	Bur Oak	54	10	9	90%
QV	Quercus velutina	Black Oak	38	11	11	100%
TOTALS			**210**	**94**	**91**	**97%**

Table 5.8 Individual Shrub Species Survival Rates at the Mack Road Staging Area

Symbol	Scientific Name	Common Name	Initial Number Planted	Condition Acceptable 2015	Condition Acceptable 2019	Percent Survived
CA	Corylus americana	American Hazelnut	78	72	72	100%
CCG	Crataegus crus-gali	Cockspur Hawthorn	20	17	14	82%
CM	Crataegus mollis	Downy Hawthorn	13	8	7	88%
LP	Lonicera prolifera	Yellow Honeysuckle	12	4	4	100%
MI	Malus ioensis	Iowa Crabapple	16	9	7	78%
PA	Prunus americana	Wild Plum	25	12	7	58%
PV	Prunus virginiana	Choke Cherry	22	15	7	47%
PT	Ptelea trifolitata	Wafer Ash	19	3	2	67%
VP	Viburnum prunifolium	Blackhaw	16	16	10	63%
XA	Xanthoxylum americanum	Prickly Ash	16	6	3	50%
TOTALS			**237**	**162**	**133**	**82%**

Table 5.9 Recorded Unacceptable Conditions for Individual Tree Species at Mack Road, 2016 - 2019

Symbol	Scientific Name	Common Name	Dead 2016-2018	Dead 2019	Missing 2016-2018	Missing 2019
CCO	Carya cordiformis	Bitternut Hickory		1		
COV	Carya ovata	Shagbark Hickory				
JN	Juglans nigra	Black Walnut				
OV	Ostrya virginiana	Hophornbeam	1			
QA	Quercus alba	White Oak				
QM	Quercus macrocarpa	Bur Oak	1			
QV	Quercus velutina	Black Oak				
TOTALS			**2**	**1**	**0**	**0**

Table 5.10 Recorded Unacceptable Conditions for Individual Shrub Species at Mack Road 2016 - 2019

Symbol	Scientific Name	Common Name	Dead 2016-2018	Dead 2019	Missing 2016-2018	Missing 2019
CA	Corylus americana	American Hazelnut				
CCG	Crataegus crus-gali	Hawthorn		1	2	
CM	Crataegus mollis	Downy Hawthorn		1		
LP	Lonicera prolifera	Honeysuckle				
MI	Malus ioensis	Iowa Crabapple	2			
PA	Prunus americana	Wild Plum	3		2	
PV	Prunus virginiana	Choke Cherry	6		2	
PT	Ptelea trifolitata	Wafer Ash	1			
VP	Viburnum prunifolium	Blackhaw	3	1	2	
XA	americanum	Prickly Ash	3			
TOTALS			**18**	**3**	**8**	**0**

6.0 Discussion

6.1 Herbaceous Vegetation

Reach 5E

Reach 5E met one of two performance standards and none of evaluation metrics. The native FQI (35.81) and Native Mean C (3.30) increased since 2015, but native RIV dropped slightly from 56.5 in 2015 to and 55.9 in 2018. Total vegetation cover was below 90% (80.29%), invasive weeds was less than 5% (0.37%) of herbaceous ground cover, and patches of bare ground exceeded 0.5 square meters.

The site was blanket herbicided in late 2017, then tilled, herbicided, and reseeded during the next spring (2018). The site was mowed and spot herbicided a number of times during the 2018 growing season.

The site was prescribed burned on April 9, mowed on June 7, and spot mowed on July 29 this year (2019). Selective herbiciding took place on June 7, July 3, July 29, and September 24.

The site was dominated by yellow foxtail and Chinese cup grass (non-native species) along with a number of native species, including big blue stem, brown-eyed Susan, annual fleabane, and Indian grass. Recommendations for 2020 include burning in spring followed by over-seed with native forb and grass species and spot-herbicide and spot-mow as needed.

Reach 8A

Reach 8A exceeded both performance standards and two of the four evaluation metrics for 2019. Total vegetation cover is 114% and invasive weed cover is <1%. The three most dominant species were native brown eyed Susan, white panicled aster, and obedient plant, the Native RIV was 95.2, the Native FQI was 28.74, and no bare ground over 0.5 square meters was present. However, Native Mean C was below 3.5 (2.89), and was slightly lower than it was in 2015 (2.93).

All of these sites were spot-herbicided, mowed, or had invasive woody species removed in 2019. Supplemental seeding took place in fall of 2019 to fill in some small bare areas resulting from recent herbicide treatment and to improve species diversity.

Sign off has been requested for Reach 8A because the site is very well vegetated (114% cover and no bare areas >0.5 m^2), is dominated by native species (95% Native RIV and Weedy Invasive species <1%), and the Native FQI (28.74) has increased. However, diversity as measured by Native Mean C peaked three years after restoration (2017) and has dropped to just below the first year (2015) levels. Over time, native restorations, like many natural communities, will increase in density (e.g. vegetation cover) and can become dominated by fewer, more abundant species. Under these conditions, resource competition can inhibit the establishment of new species and even reduce the abundance of established ruderal species. This can result in species richness or diversity of a community leveling off over time, and in a managed community where weedy species are being actively reduced, it could lead to a drop in diversity. These trends have been observed in Reach 8A where total cover has increased 23% and the three most dominant species have increased from 33% RIV to 36% RIV between 2015 to 2019 and over the same time non-native species (mostly ruderal species) RIV has dropped from 38% to 5%. These changes to community structure and diversity as well as difficulty detecting smaller and less common species can help explain why there has been a slight drop in the Native Mean C over the last four years.

Please note that signoff is considered separately for Reach 8A and Reach 8B per the 2015 Annual Monitoring Report.

The following summarizes the management and condition of Reach 8A by area:

- Pod R8-3. Native woodland seed mix was hand broadcast on May 22. Reed canary grass (RCG) and other weeds were selectively herbicided on June 7. Stickseed and ragweed were spot mowed, and burdock, buckthorn and purple loosestrife were spot herbicided on August 19. Woody invasives were cut and treated on September 24. A bare area at north end of woodland was over-seeded with bottlebrush grass and Virginia wild rye on November 14. Jewelweed dominates the east end of the woodland edge, and native species dominate the riverbank.

- Area 4. RCG and other weeds were spot herbicided on June 7. Six hundred (600) wet prairie plugs were installed on June 19 and watered on July 12. RCG, purple loosestrife, moneywort, and woody invasives were herbicided, and ragweed, Queen Anne's lace, black mustard, sow thistle, and other weeds were spot-mowed on August 19. Native wetland and open floodplain seed were hand broadcasted on November 14. Native cover and RIV greatly increased this year, and RCG was reduced.

- Areas 5 and 6. RCG, purple loosestrife, and other weedy species were herbicided on June 7, and many of the same species managed in Area 4 were selectively herbicided or mowed in these areas on August 19. Native wetland and open floodplain seed mixes were hand broadcasted in small bare areas on November 14. Native cover and RIV are also very high in these areas.

Reach 8A met performance standards in 2019. Signoff is recommended. No management is planned for 2020.

<u>Reach 8B</u>

Reach 8B exceeded both performance standards and two of four evaluation metrics. Total vegetation cover was 104.9 and invasive weeds were 0.6%. The native Mean C was 3.7, the three most dominant species were native, and FQI, and RIV increased between 2015 and 2019. However, Native Mean C was lower in 2019 (3.7) than 2015 (3.72) and bare ground exceed 0.5 square meters.

Both sites were spot herbicided, mowed, or had invasive woody species removed in 2019.

Sign off has also been requested for Reach 8B because the site is very well vegetated (105% cover) and is dominated by native species (81% Native RIV and Weedy Invasive species <1%). However, diversity as measured by Native Mean C peaked three years after restoration (2017) and has dropped to just below the first year (2015) levels. This slight drop in a diversity metric has likely occurred in this Reach for the same reasons it has in Reach 8A – a denser community dominated by fewer abundant species may inhibit establishment or growth of other more ruderal species. Trends similar to those found in Reach 8A have also been observed in Reach 8B where the three most dominant species have increased from 19% RIV in 2015 to 23% in 2019 and at the same time non-native species (mostly ruderal species) species RIV has decreased from 29% in 2015 to 19% in 2019. These changes to community structure and diversity can help explain why there has been a slight drop in the Native Mean C over the last four years.

The following summarizes the management and condition for Reach 8B by area:

- Area 11: This area is a narrow strip along the south and east banks of the DuPage River near the McDowell Grove parking area off Raymond Drive. Protective fencing around trees and shrubs were repaired or removed on May 9. Selective herbiciding for many of the same weeds found in Area 12 occurred four times (June 10, July 2, August 16 and September 23) in this area. Selective mowing was also completed on August 16 and August 19 for ragweed, Queen Anne's Lace, foxtail, and black mustard. This area is dominated by native species including marsh aster and mild water-pepper with very high native cover. A new bridge was constructed on the West Drive over the DuPage River in 2017, and disturbed areas on both sides of the east end of the new bridge were seeded, planted, and blanketed that fall. Most of the area south of the drive (T2) was disturbed by the bridge construction and, according to an email from the County on November 22, 2017, WCERT is not responsible for repairing or restoring this area. Nor is WCERT responsible for repairing or restoring the area immediately north of the new bridge that was also disturbed during construction.

- Area 12. This is the largest (8.98 acres) area within Reach 8B. Management in Area 12 followed the same schedule as Area 11. The site was selectively herbicided for cover, sweet clover, thistle, RCG, *Phragmites*, hairy cup grass, and other weeds on June 10, July 2, August 16, September 23. Selective mowing was also completed on August 16 and August 19 for ragweed, Queen Anne's Lace, foxtail, and black mustard. This area also has high native cover and is dominated by Indian grass, Canada goldenrod, big bluestem, and other native forbs and grasses.

Reach 8B met performance standards in 2019. Signoff is recommended. No management is planned for 2020.

Mack Road Staging Area and Reach 5D Upland Savanna

The Mack Road Staging Area achieved the performance standard of 90% native vegetative cover in 2016 and again in 2018 and 2019. No maintenance of herbaceous vegetation was completed in between 2017 and 2019. On May 8, the protective fencing around trees and shrubs were repaired or removed.

The Reach 5D Upland Savanna area must meet the same two performance standards as other reaches, but only one (<5% invasive weeds) was met in 2019. Native Mean C, FQI, and RIV have all increased since 2016, but no other evaluation metrics were met this year (2019). Cool season grasses were rototilled on April 11 and herbicided on May 3. Protective fencing around trees and shrubs were repaired or removed on May 8. Native upland savanna seed was installed on May 22. Selective herbiciding of clover, cheat grass and other cool season grasses was completed on June 7. The west end of the site was reseeded with wild rye and native forbs on June 26. The site was selectively mowed for ragweed, Queen Anne's lace, sweet clover, foxtail and hairy cup grass on August 19. On September 24, sweet clover was mowed and thistle and woody resprouts were herbicided. On November 14, native savanna grass seed was hand broadcasted. The site will be burned in Spring of 2020, overseeded with Virginia wild rye and Canada wild rye, planted with native forb plugs, and spot-herbicide and spot-mowed as needed.

Reaches 8A and 8B met the established performance standards in 2019 and a Certification Inspection will be requested for each in 2020.

6.2 Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site has not met the performance criteria of 90% survival for woody plant material since the 2018 monitoring season. The only additional plants observed in unacceptable condition during the current 2019 monitoring season were one *Carya cordiformis* tree, and three shrubs including one *Crataegus mollis*, one *Crataegus crus-galli*, and one *Viburnum prunifolium*.

The Reach 8B site did not meet the established performance criteria of 90% survival beginning in 2016. In 2019, four additional trees and five additional shrubs were observed to be dead. Tree species lost included *Carpinus caroliniana*, *Cercis canadensis*, *Quercus bicolor*, and *Quercus velutina*, while shrubs lost included two *Cornus stolonifera* and three *Xanthoxylum americanum*. It should be noted that several of the losses noted this season were from reasons other than the plant material simply failing to thrive, such as being crushed by a large fallen tree, damaged by a beaver, or wiped out by flood debris.

A site walk through was conducted for Reach 8B on October 2 to assess eligibility for obtaining signoff. As the herbaceous vegetation was preliminarily approved for acceptance with minor punch list issues, a discussion was held on potential methods to resolve the tree and shrub deficiencies. Local Communities staff stated that they would review the project history and discuss acceptable strategies for replacement with the Forest Preserve District, given the habitat intended by the original restoration plan. A resolution on the strategy to replace the woody plants is pending.

6.3 Restored Banks

The West Branch of the Du Page River in Reach 8A is stable. Two areas of eroding bank on Ferry Creek in the McDowell Grove Forest Preserve (Reach 8B) were repaired and stabilized during summer 2017.

These areas were monitored in 2018 following three two-year storm event and remained stable. The County inspected these areas in June 27, 2018 with the Local Communities and recommended sign off. No monitoring was completed in 2019.

7.0 Conclusions and Recommendations

The following summarizes conclusions for each reach based on 2019 monitoring results and site inspections and proposes management activities for specific areas for 2020. A projected schedule for 2020 monitoring and management activities is included in Appendix F.

7.1 Herbaceous Vegetation

Vegetation monitoring results and recommended management activities for each reach are summarized in Table 5.1. Proposed management activities are summarized by task in Table 7.1 below.

Reach 5E

Performance: The site was dominated by yellow foxtail (annual weed), hairy cup grass and with a few natives, such as brown-eyed Susan and big blue stem, common throughout. Only one of two performance standards were met and none of evaluation metrics.

Recommendations:

- Burn reach in spring 2020.
- Over-seed with native forb and grass species from approved modified upland savanna mix.
- Spot-mow and spot-herbicide as needed.

Reach 8A

Performance: Reach 8A met or exceeded both performance standards and two of the four evaluation metrics for 2019. The three most dominant species were native and no bare ground over 0.5 square meters was present. However, Native Mean C was below 3.5 (2.89) and was slightly lower than it was in 2015 (2.93).

Sign off has been requested for Reach 8A because the site is very well vegetated (114% cover and no bare areas >0.5 m^2) and is dominated by native species (95% Native RIV and Weedy Invasive species <1%), and the Native FQI (28.74) has increased. A slightly lower Native Mean C in this area is likely due to structural changes that occur in natural communities as they mature. Over time many natural communities, including native restorations, will increase in density (e.g. vegetation cover) and can become dominated by fewer, more abundant species. Increased competition can inhibit the establishment of new species and even reduce the abundance of established ruderal species. This can result in species richness or diversity of a community leveling off over time, and in a managed community where weedy species are being actively reduced, it could lead to a drop in diversity. These trends have been observed in Reach 8A where total cover has greatly increased, and the most dominant species have increased while over the same time non-native species have greatly decreased. These changes to community structure and diversity as well as difficulty detecting smaller and less common species can help explain why there has been a slight drop in the Native Mean C over the last four years.

Recommendations: Pod R8-3

- Signoff recommended.

Recommendations: Area 4

- Signoff recommended.

Recommendations: Area 5

- Signoff recommended

Recommendations: Area 6

- Signoff recommended.

Reach 8B

Performance: Reach 8B met or exceeded both performance standards and two of four evaluation metrics. Total vegetation cover was 104.85 with 0.55% weeds. The native Mean C was 3.7, the three most dominant species were native, and FQI, and RIV increased between 2015 and 2019. However, Native Mean C was lower in 2019 (3.7) than 2015 (3.72) and bare ground exceed 0.5 square meters.

Sign off has also been requested for Reach 8B because the site is very well vegetated (105% cover) and is dominated by native species (81% Native RIV and Weedy Invasive species <1%). A slightly lower Native Mean C and Native FQI in this area is likely due to structural changes that occur in natural communities as they mature. This slight drop in a diversity metric has likely occurred in this reach for the same reasons it has in Reach 8A – a denser community dominated by fewer abundant species may inhibit establishment or growth of other more ruderal species. Trends similar to those found in Reach 8A have also been observed in Reach 8B where the most dominant species have increased in abundance while at the same time non-native species (mostly ruderal species) species RIV has decreased. These changes to community structure and diversity can help explain why there has been a slight drop in the Native Mean C over the last four years.

Recommendations: Area 11 – T1 (North of drive)

- Signoff recommended.

Recommendations: Area 11 – T2 (South of drive)

- Signoff recommended.

Recommendations: Area 12 – T3 - T8

- Signoff recommended.

Mack Road – Staging Area

Performance: Mack Road staging area achieved its performance standard (>90% native vegetation cover) but will not receive signoff until Reach 5D-Upland Savanna also meets performance standards.

Reach 5D Upland Savanna

Performance: The Reach 5D Upland Savanna area must meet the same two performance standards as other reaches, but neither were met in 2019. Native Mean C, FQI, and RIV have all increased since 2016, but no other evaluation metrics were met this year (2019).

Recommendations:

- Burn in Spring of 2020
- Over-seed with Virginia wild rye and Canada wild rye, and install native forbs plugs
- Spot-mow and spot-herbicide as needed.

Reaches 8A and 8B met the established performance standards in 2019 and a Certification Inspection will be requested for each in 2020.

Table 7.1 Summary of Proposed 2019 Management Activities by Task

Task	Reach(s)	Unit	Unit(s)	Schedule 2020
Supplemental Plugs	5D Upland Savanna	Acres	0.23	Q2
Spot Herbicide (2-3 visits throughout the growing season)	5E	Acres	4.57	Q2-Q3
	5D Upland Savanna	Acres	0.23	Q2-Q3
Spot Mow 1-2x	5E	Acres	4.57	Q2-Q3
	5D Upland Savanna	Acres	0.23	Q2-Q3
Burn	5E	Acres	4.57	Q4
	5D Upland Savanna	Acres	0.23	Q4
Supplemental Seeding	5E	Acres	4.57	Q4
	5D Upland Savanna	Acres	0.23	Q4

7.2 Tree and Shrub Survival

The Mack Road / Reach 5D Upland Savanna site currently does not meet performance criteria for woody plants, with a survival rate of 88%. We recommend continued observation and assessment of the woody plant survival until herbaceous plant material meets performance criteria. Because access to Reach 5D is through the Mack Road Staging area, this entire area will be maintained and monitored until Reach 5D meets acceptance criteria.

Reach 8B is short of meeting performance standards, with a woody vegetation survival rate of 71%. However, the site meets the performance standards for herbaceous vegetation and is thus eligible for sign-off pending the resolution of the means and methods for replacing the woody plants.

At Mack Road several stakes around trees and shrubs were observed to be loose or missing. This likely happens as the staking materials naturally degrade or are bumped by maintenance crews or animals. The staking is scheduled to be assessed and reset as a maintenance activity in spring 2020.

7.3 Restored Banks

The West Branch of the DuPage River in Reach 8A is stable. Two areas of eroding bank on Ferry Creek in the McDowell Grove Forest Preserve (Reach 8B) were repaired and stabilized during summer 2017.

Restoration of the two areas on Ferry Creek was completed during Summer 2017. They were inspected in late Summer and Fall that year and remained stable. These areas were monitored in 2018 following three two-year storm event and remain stable. The County inspected these areas in June 27, 2018 with the Local Communities and recommended sign off. No monitoring was completed in 2019.

7.4 Projection for Future Maintenance and Monitoring Activities

Maintenance and monitoring activities will continue until all areas receive signoff.

Reach 5D was reseeded June 4, 2016, and thus may be considered for signoff at the end of the 2018 growing season. Because access to Reach 5D is through the Mack Road Staging Area, this entire area is also eligible for sign off at the end of the 2018 growing season. Reach 8A Area 4 was reseeded November 30, 2016, following summer herbicide applications. Therefore, the required three full growing seasons for monitoring of this area is anticipated to end during fall 2019. Also, because smaller subareas are not considered separately for signoff, all other areas of Reach 8A also require monitoring through 2019. Reach 8B may be considered for signoff of herbaceous vegetation during fall 2018, as agreed upon by WCERT correspondence dated February 11, 2016, but is being monitored and managed until performance standards are met. The uplands savanna area of Reach 5E was reseeded in spring 2018; thus, it will not be eligible for sign off until fall of 2020.

Monitoring of trees and shrubs in the Mack Road Staging Area will continue until this area meets herbaceous performance criteria. At that time, discussions will be held with the Local Communities to determine the appropriate woody plant material replacement strategy. Monitoring of trees and shrubs in Reach 8B is contingent upon the means and methods for replacing the woody plants. If replacements are required, planting and warranty assessments of the installed replacement plant material will be performed in 2020.

8.0 References

Applied Ecological Services and SmithGroupJJR. 2017. 2016 Annual Monitoring Report- Reaches 5D, 5E, 7, 8, and the Mack Road Staging Area of the Kress Creek/ West Branch DuPage River Site.

Applied Ecological Services and SmithGroupJJR. 2018. 2017 Annual Monitoring Report- Reaches 5D, 5E, 7, 8, and the Mack Road Staging Area of the Kress Creek/ West Branch DuPage River Site.

Applied Ecological Services and SmithGroup. 2019. 2018 Annual Monitoring Report- Reaches 5D, 5E, 7, 8, and the Mack Road Staging Area of the Kress Creek/ West Branch DuPage River Site.

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Swink F., Wilhelm G. 1994. Plants of the Chicago Region. Indianapolis (IN): Indiana Academy of Science. 921 p.

Darbyshire, S.J., C.E. Wilson et al. 2003. *The Biology of Invasive Alien Plants in Canada. 1. Eriochloa villosa (Thunb.) Kunth.* Canadian Journal of Plant Science. 2003, 83(4): 987-999.

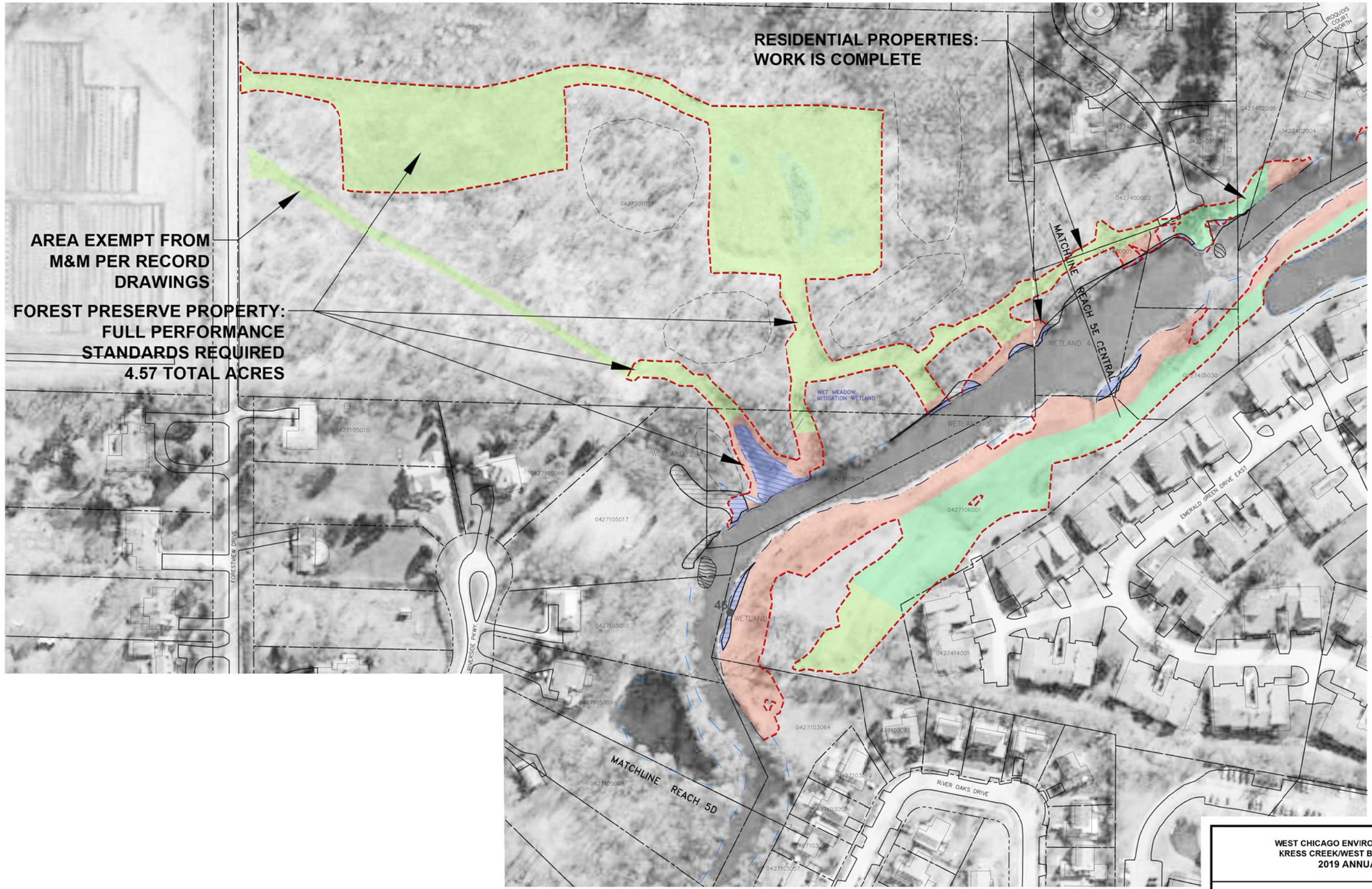
SmithGroupJJR. 2016. 2015 Annual Monitoring Report- Reaches 5E, 7, 8, the Mack Road Staging Area, and the Route 59 Bridge Area of the Kress Creek/ West Branch DuPage River Site.

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Exhibit A

Base Maps



LEGEND:

- LIMIT OFACTUAL DISTURBANCE
- PROPERTY LINE
- 0427201019 RESIDENTIAL PROPERTY REFERENCE NUMBER
- ARCHEOLOGICAL SITE
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED WETLAND
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED SAVANNA AND OPEN FLOODPLAIN
- EDGE OF WATER
- POOL

NOTE:

1. BASE MAP PROVIDED BY TRONOX LLC IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINE WERE DEVELOPED BY BLASLAND, BOUCK & LEE FROM SURVEY DATA PROVIDED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI), DUPAGE COUNTY, AND TRONOX.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12A, TRACER NO. B0071030/0000/00026/DWG/71030G10.DWG, DATED 5/21/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

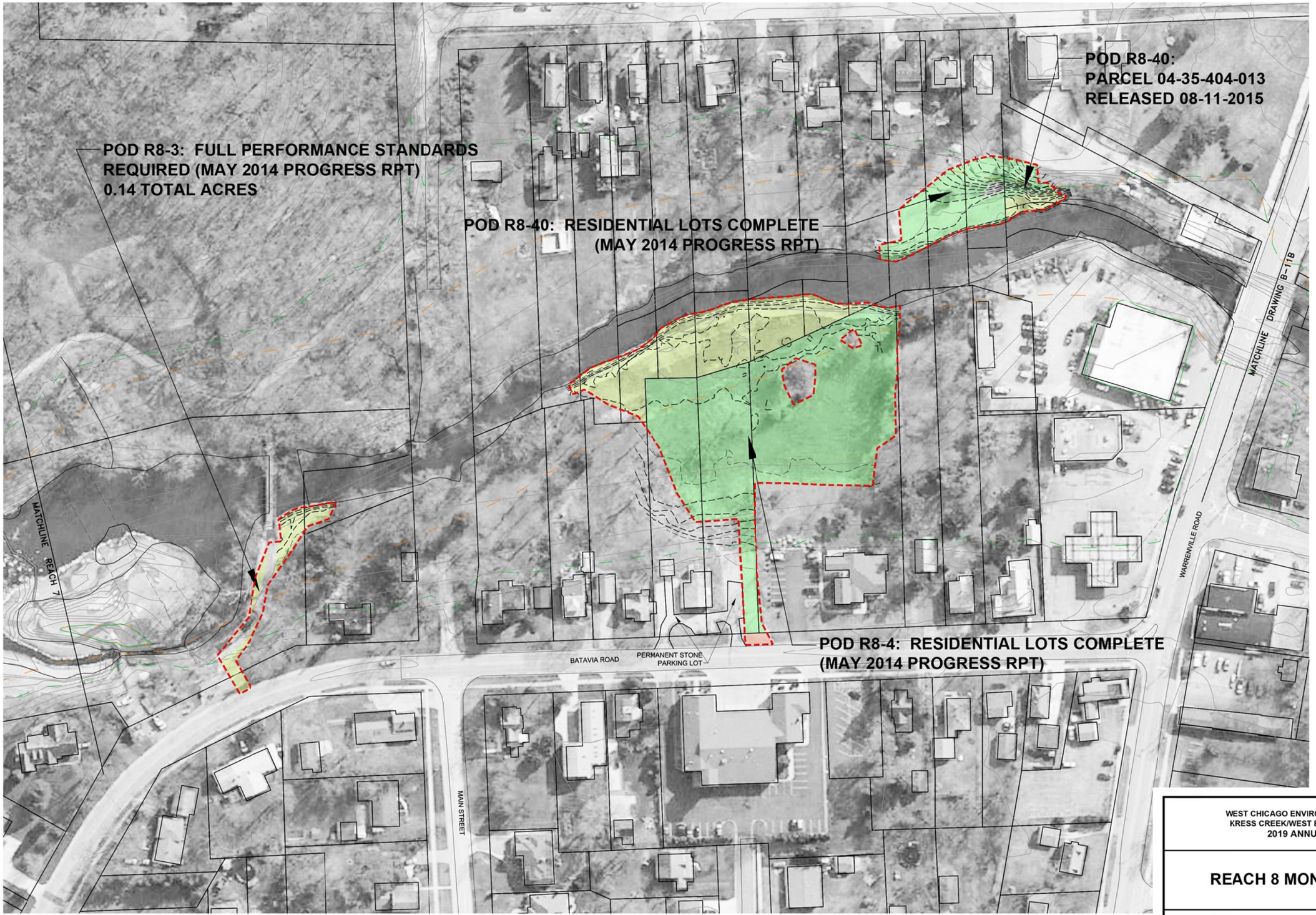
WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 5E MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
12-1

EXHIBIT A



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH LAWN SEED PER TABLE 7 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH PRAIRIE DROPSEED

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS.
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11A

EXHIBIT A

AREA 4: FULL PERFORMANCE STANDARDS REQUIRED, 0.35 ACRES
BANK STABILITY MONITORING REQUIRED, 450 LF

AREA 5: FULL PERFORMANCE
STANDARDS REQUIRED, 0.28 ACRES
BANK STABILITY MONITORING REQUIRED, 700 LF

AREA 3: NO M&M REQUIRED (9/27/13)
WEST BANK RELEASED FROM
BANK STABILITY MONITORING
(8/11/15)

APPROXIMATE BIKE TRAIL

APPROXIMATE BIKE TRAIL

MATCHLINE DRAWING B-11B

MATCHLINE DRAWING B-11D

RIVER ROAD

TOWNLINE ROAD

FOREST VIEW AVE S.

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

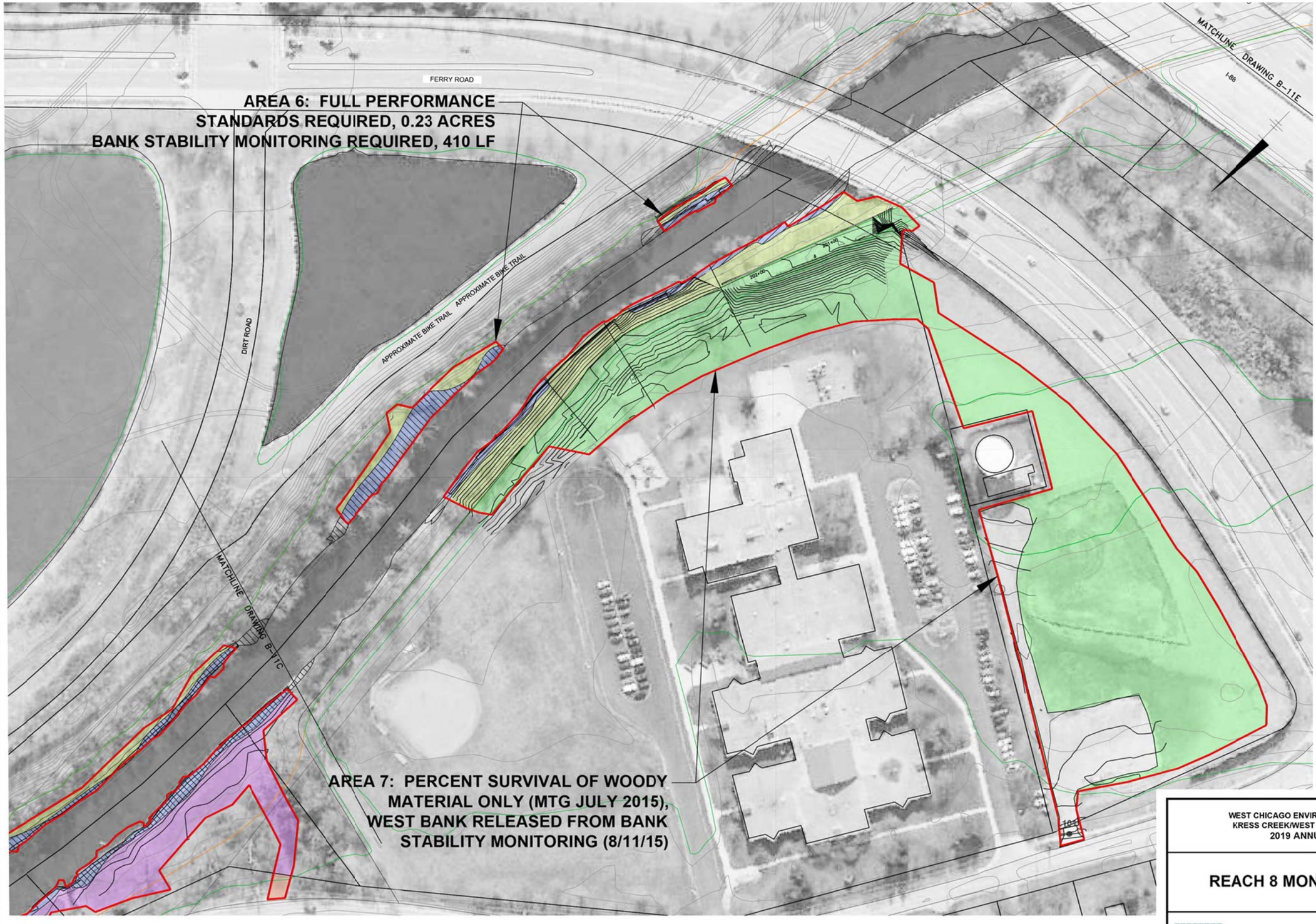
FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS.
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11C



NOTES:

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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

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WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
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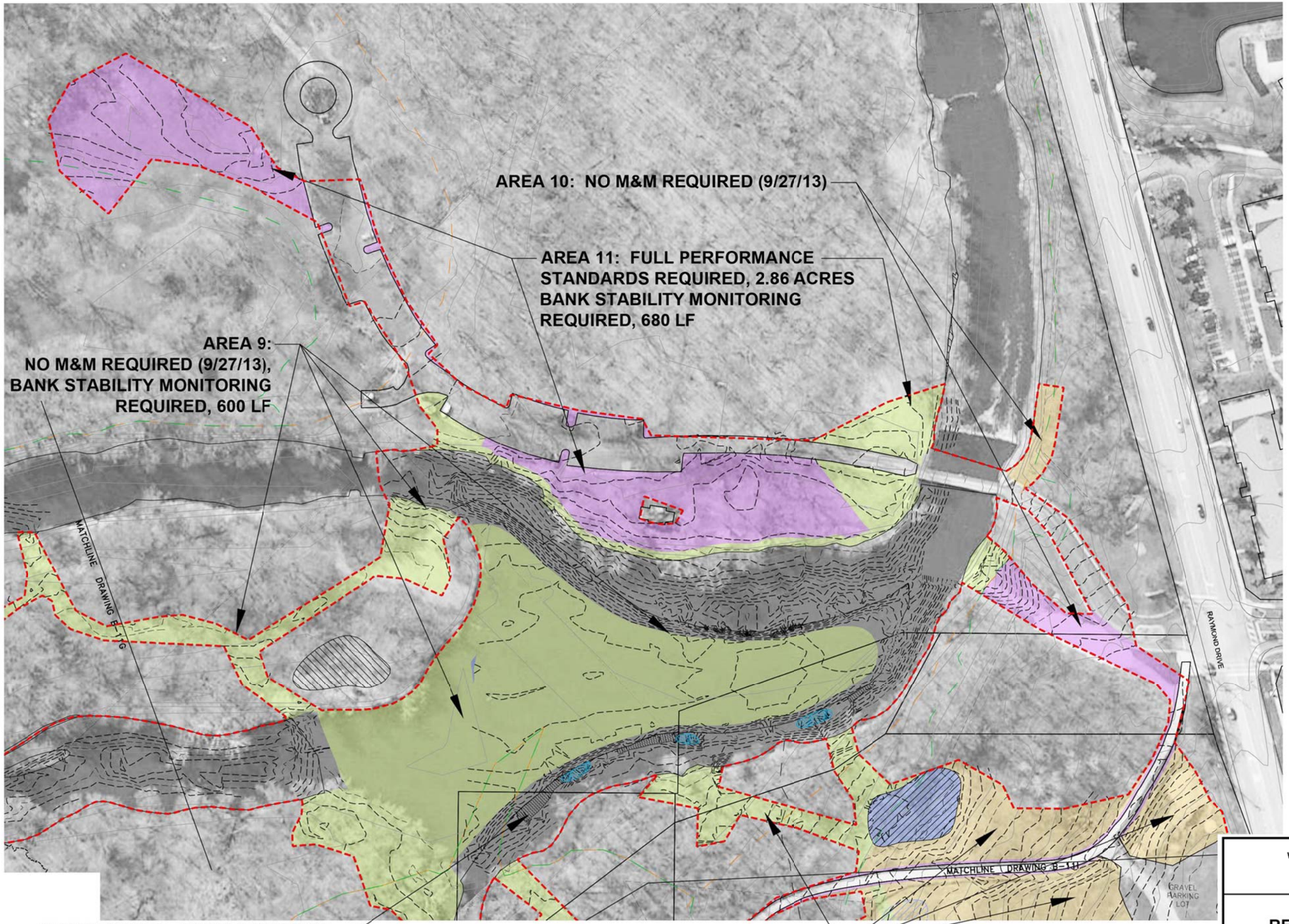
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11D



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:

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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

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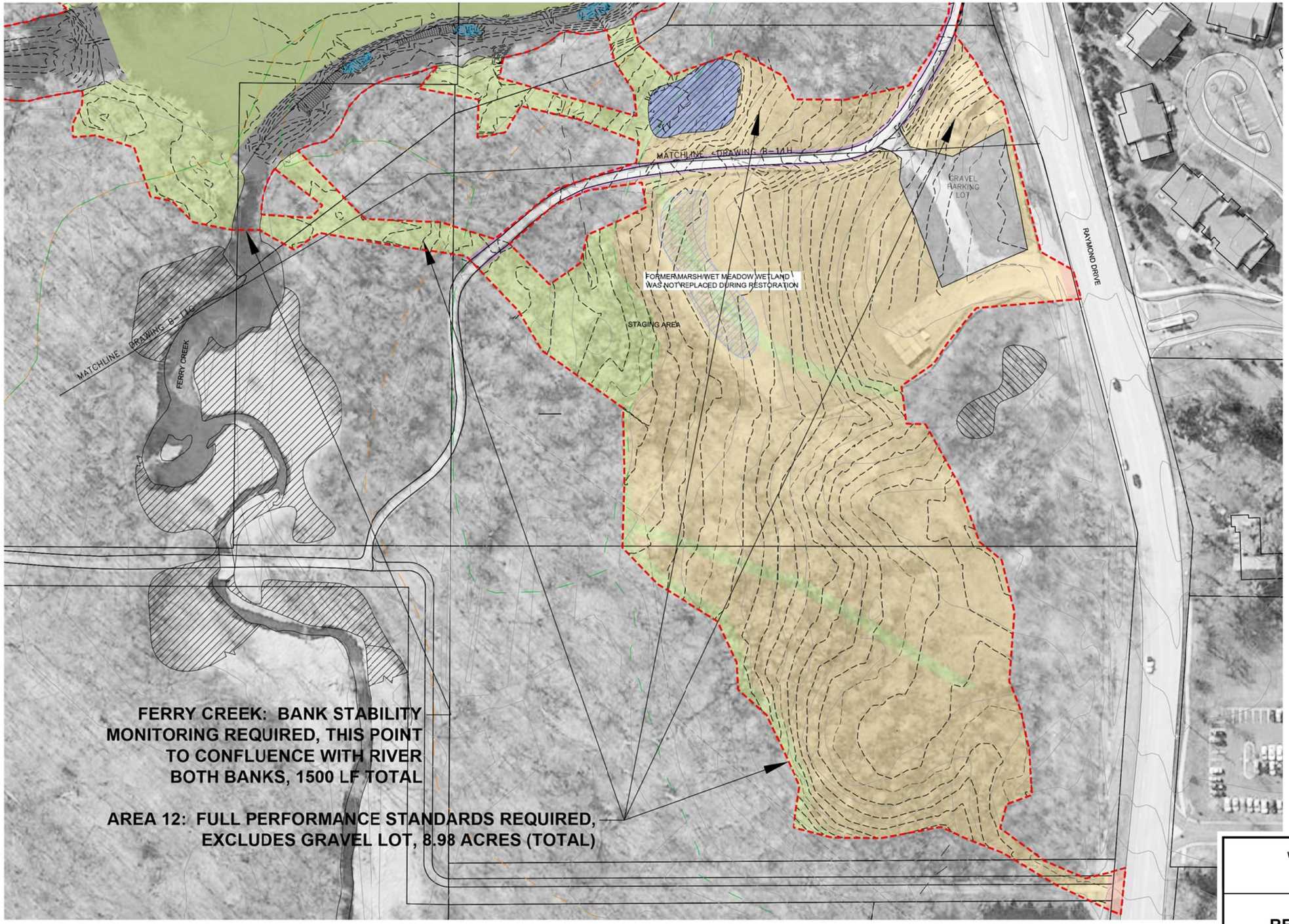
WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11H



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE–CONSTRUCTION CONTOUR
- POST–CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B–12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B–12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B–12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B–12

NOTES:

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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8–17–2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11I

EXHIBIT A

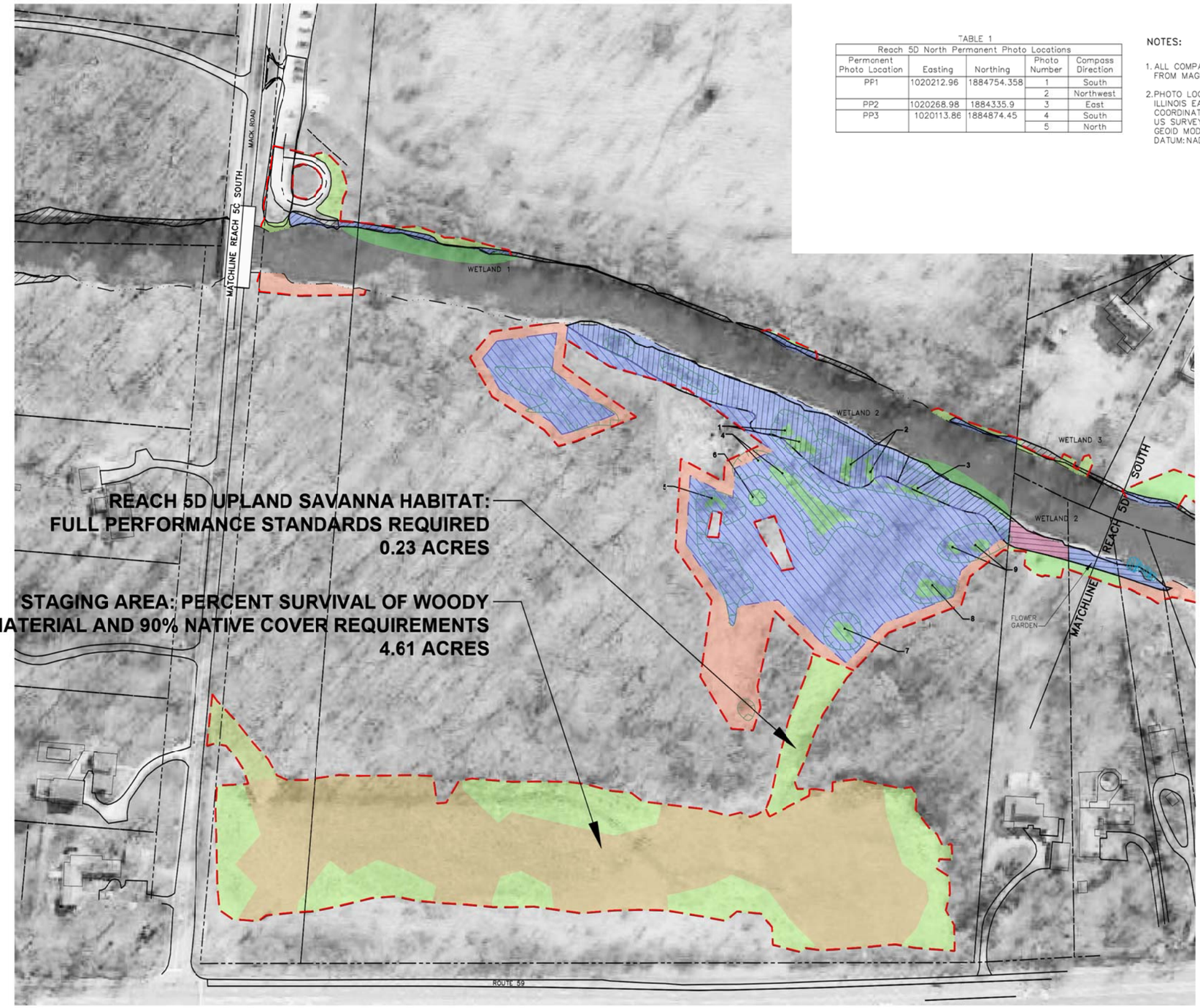

TABLE 1

Reach 5D North Permanent Photo Locations

Permanent Photo Location	Easting	Northing	Photo Number	Compass Direction
PP1	1020212.96	1884754.358	1	South
			2	Northwest
PP2	1020268.98	1884335.9	3	East
PP3	1020113.86	1884874.45	4	South
			5	North

NOTES:

1. ALL COMPASS DIRECTIONS ARE FROM MAGNETIC NORTH.
2. PHOTO LOCATIONS ARE IN THE ILLINOIS EAST STATE PLANE COORDINATE SYSTEM IN UNITS OF US SURVEY FEET. GEOID MODEL: GEOID 96 (CONUS) DATUM: NAD 83

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- APPROXIMATE EDGE OF WATER
- POOL
- RIFFLE
- 8 HOLLOW
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- FORESTED WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED UPLAND SAVANNA AND FERMI LABS SEED
- RESTORED FERMI LABS SEED
- RESTORED WETLAND
- AREA RESTORED WITH PLANT PLUGS
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED BENTGRASS

NOTE:

1. BASE MAP PROVIDED BY KERR-McGEE CHEMICAL LLC (NOW KNOWN AS TRONOX) IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINES WERE DEVELOPED BY ARCADIS FROM SURVEY DATA COLLECTED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI) FOLLOWING COMPLETION OF RESTORATION.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

MACK ROAD MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
12-6

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Exhibit B

Transect & Quadrat Locations

RESIDENTIAL PROPERTIES:
WORK IS COMPLETE

AREA EXEMPT FROM M&M PER RECORD DRAWINGS

FOREST PRESERVE PROPERTY:
FULL PERFORMANCE STANDARDS REQUIRED
4.57 TOTAL ACRES

981
206°
T1 Q=22
110 m
982
983
226°
T2 Q=23
116 m
984
985
T3 Q=5
986
T4 Q=4
T5 Q=4
T6 Q=7

MATCHLINE REACH 5E CENTRAL

MATCHLINE REACH 5D

FOREST VIEW DRIVE
RIVERSIDE PKWY
RIVER OAKS DRIVE
EMERALD GREEN DRIVE EAST
ROQUOIS COURT NORTH

WET MEADOW MITIGATION WETLAND
WETLAND 4
WETLAND 5

LEGEND:
- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- 0427201019 RESIDENTIAL PROPERTY REFERENCE NUMBER
- ARCHEOLOGICAL SITE
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED WETLAND
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED SAVANNA AND OPEN FLOODPLAIN
- EDGE OF WATER
- POOL

- SURVEY POINT
- TRANSECT
- Q QUADRAT

NOTE:
1. BASE MAP PROVIDED BY TRONOX LLC IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINE WERE DEVELOPED BY BLASLAND, BOUCK & LEE FROM SURVEY DATA PROVIDED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI), DUPAGE COUNTY, AND TRONOX.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12A, TRACER NO. B0071030/0000/00026/DWG/71030G10.DWG, DATED 5/21/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 5E MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
12-1

POD R8-3: FULL PERFORMANCE STANDARDS
REQUIRED (MAY 2014 PROGRESS RPT)
0.14 TOTAL ACRES

POD R8-40: RESIDENTIAL LOTS COMPLETE
(MAY 2014 PROGRESS RPT)

POD R8-40:
PARCEL 04-35-404-013
RELEASED 08-11-2015

POD R8-4: RESIDENTIAL LOTS COMPLETE
(MAY 2014 PROGRESS RPT)

961
T10$^{Q=1}$

960
T10$^{Q=2}$

MATCHLINE REACH 7

MATCHLINE DRAWING B-11B

BATAVIA ROAD

PERMANENT STONE PARKING LOT

MAIN STREET

WARRENVILLE ROAD

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH LAWN SEED PER TABLE 7 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH PRAIRIE DROPSEED
- SURVEY POINT
- TRANSECT
- Q QUADRAT

NOTES:

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0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

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CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11A

AREA 4: FULL PERFORMANCE STANDARDS REQUIRED, 0.35 ACRES
BANK STABILITY MONITORING REQUIRED, 450 LF

AREA 5: FULL PERFORMANCE
STANDARDS REQUIRED, 0.28 ACRES
BANK STABILITY MONITORING REQUIRED, 700 LF

AREA 3: NO M&M REQUIRED (9/27/13)
WEST BANK RELEASED FROM
BANK STABILITY MONITORING
(8/11/15)

974
975
976
977
978

T11 Q=1

T12 Q=7 67 m

T13 Q=6 60 m

RIVER ROAD
TOWNLINE ROAD
FOREST VIEW AVE. S.
MATCHLINE DRAWING B-11D

LEGEND:
- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- WETLAND BOUNDARY
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- FORESTED WETLAND
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- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
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- SURVEY POINT
- TRANSECT
- Q QUADRAT

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

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WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

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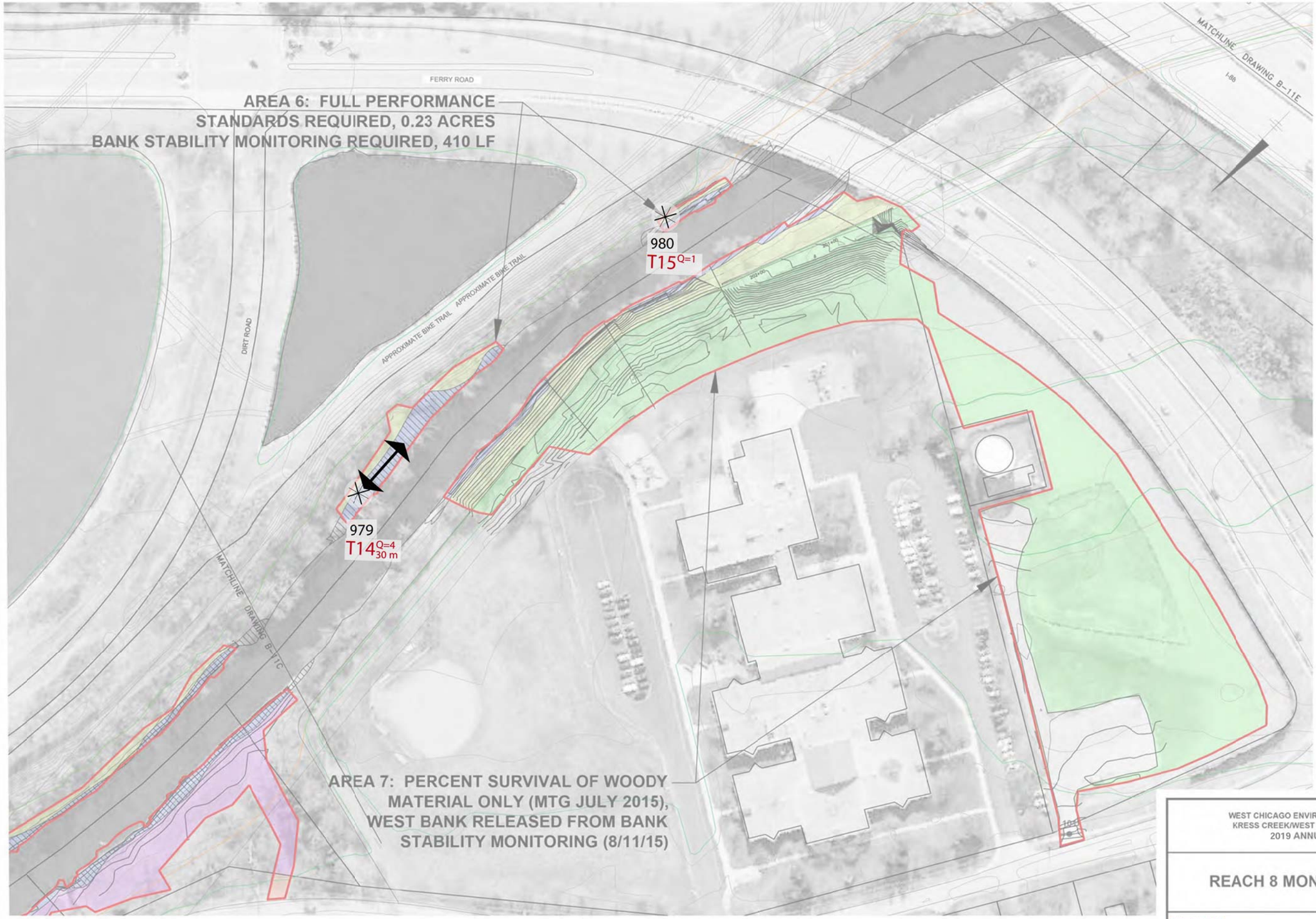
FIGURE
B-11C



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WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11D

EXHIBIT B

AREA 10: NO M&M REQUIRED (9/27/13)

AREA 11: FULL PERFORMANCE STANDARDS REQUIRED, 2.86 ACRES
BANK STABILITY MONITORING REQUIRED, 680 LF

AREA 9:
NO M&M REQUIRED (9/27/13),
BANK STABILITY MONITORING REQUIRED, 600 LF

944
943
T2 Q=5 22 m
942
T1 Q=11 214 m

MATCHLINE DRAWING B-11G

MATCHLINE DRAWING B-11I

RAYMOND DRIVE

GRAVEL PARKING LOT

FERRY CREEK: BANK STABILITY MONITORING REQUIRED TO CONFLUENCE WITH RIVER BOTH BANKS, 1500 LF TOTAL

AREA 12: FULL PERFORMANCE STANDARDS REQUIRED (EXCLUDES GRAVEL LOT) 8.98 ACRES (TOTAL)

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

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- SURVEY POINT
- TRANSECT
- Q QUADRAT

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES
SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE B-11H

EXHIBIT B

952
946
945
344°
948
98°
947
T7 Q=13 102 m
T5 Q=6 45 m
MATCHLINE - DRAWING B-14H
949
352°
GRAVEL PARKING LOT
RAYMOND DRIVE
953
955
102°
T8 Q=8 62 m
954
FORMER MARSH/WET MEADOW WETLAND WAS NOT REPLACED DURING RESTORATION
951
312°
T6 Q=6 49 m
950
GING AREA
MATCHLINE - DRAWING B-14G
FERRY CREEK
T4 Q=31 245 m
T3 Q=35 278 m
957
956

FERRY CREEK: BANK STABILITY MONITORING REQUIRED, THIS POINT TO CONFLUENCE WITH RIVER BOTH BANKS, 1500 LF TOTAL

AREA 12: FULL PERFORMANCE STANDARDS REQUIRED, EXCLUDES GRAVEL LOT, 8.98 ACRES (TOTAL)

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
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- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
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- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12

NOTES:

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- SURVEY POINT
- TRANSECT
- Q QUADRAT

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8 MONITORING STATUS

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroup.com

FIGURE
B-11I

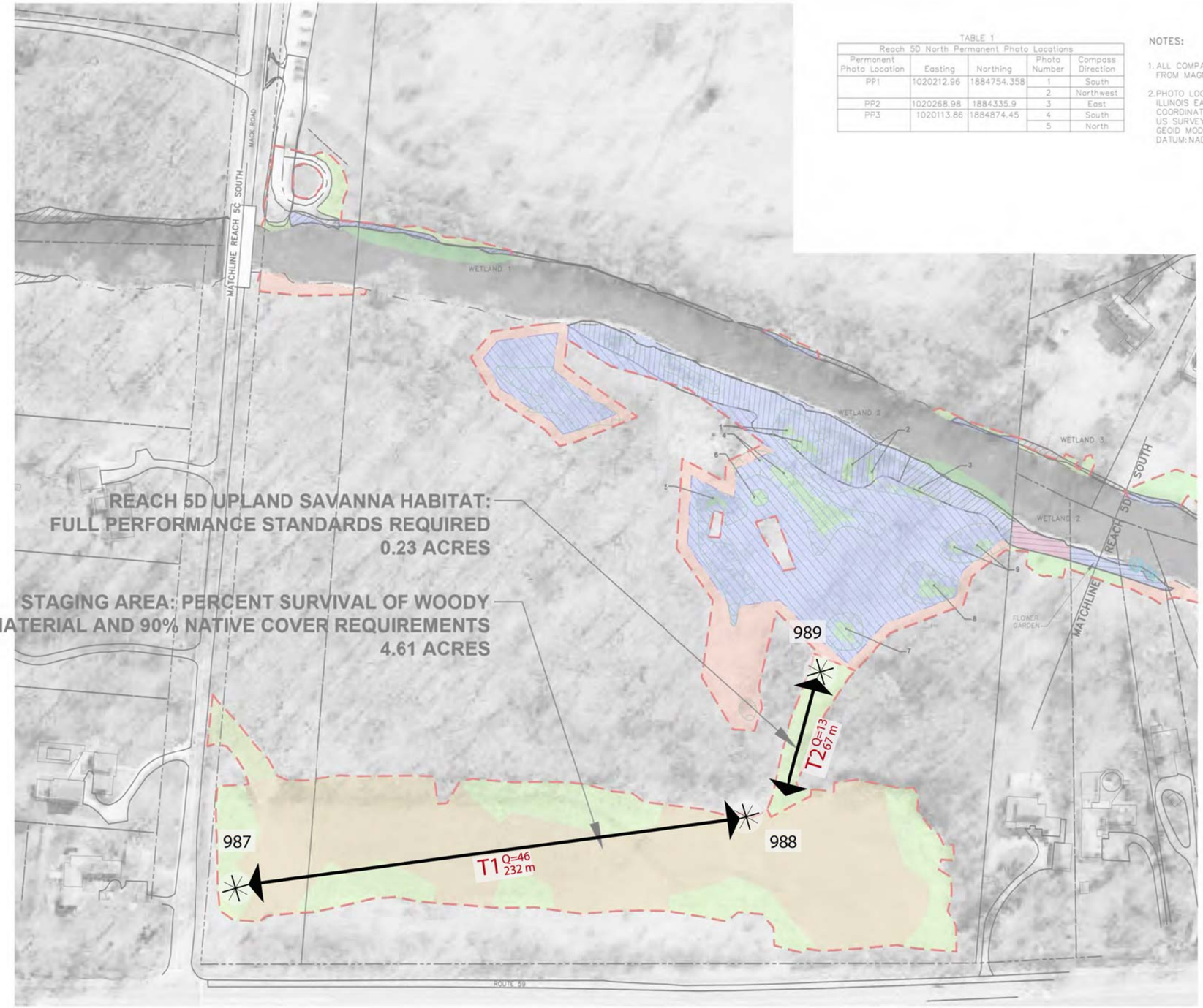

TABLE 1

Reach 5D North Permanent Photo Locations

Permanent Photo Location	Easting	Northing	Photo Number	Compass Direction
PP1	1020212.96	1884754.358	1	South
			2	Northwest
PP2	1020268.98	1884335.9	3	East
PP3	1020113.86	1884874.45	4	South
			5	North

NOTES:

1. ALL COMPASS DIRECTIONS ARE FROM MAGNETIC NORTH.
2. PHOTO LOCATIONS ARE IN THE ILLINOIS EAST STATE PLANE COORDINATE SYSTEM IN UNITS OF US SURVEY FEET. GEOID MODEL: GEOID 96 (CONUS) DATUM: NAD 83

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- APPROXIMATE EDGE OF WATER
- POOL
- RIFFLE
- 8 HOLLOW
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- FORESTED WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED UPLAND SAVANNA AND FERMI LABS SEED
- RESTORED FERMI LABS SEED
- RESTORED WETLAND
- AREA RESTORED WITH PLANT PLUGS
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED BENTGRASS

- SURVEY POINT
- TRANSECT
- Q QUADRAT

NOTE:

1. BASE MAP PROVIDED BY KERR-McGEE CHEMICAL LLC (NOW KNOWN AS TRONOX) IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINES WERE DEVELOPED BY ARCADIS FROM SURVEY DATA COLLECTED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI) FOLLOWING COMPLETION OF RESTORATION.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

MACK ROAD MONITORING STATUS

APPLIED ECOLOGICAL SERVICES SMITHGROUP
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FIGURE 12-6

EXHIBIT B

2019 Annual Monitoring Report

Reaches 5D, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Exhibit C

Tree & Shrub Survival Diagrams

AT - (1) DEAD 2015

SC - ALL DEAD 2016, 2017

SC - (2) DEAD 2015

CS - (1) MISSING 2015, (1) DEAD 2019 (FLOOD DAMAGE)

BN - ALL DEAD, 2015, 2017

COC - (1) MISSING 2015

CS - (1) MISSING 2015

SC - (2) DEAD 2017

AF - (2) DEAD 2017

QB - (1) DEAD 2019 (BEAVER DAMAGE)

CAR - (1) DEAD 2019 (DAMAGED BY FALLEN TREE)

CM - (2) DEAD 2015

RA - ALL DEAD 2015

RELOCATED 2015

RA - (1) DEAD 2018

VL - (1) DEAD 2018

MATCHLINE DRAWING B-11I

LEGEND:

QM TREE REMOVED FROM MONITORING

PA SHRUB REMOVED FROM MONITORING

ACCEPTABLE CONDITION

PLANT DEAD

BRIDGE CONSTRUCTION - REMOVE FROM WCERT MANAGEMENT

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUP ON AUGUST 5, 2019.

0 40' 80'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8
2019 TREE AND SHRUB MONITORING

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
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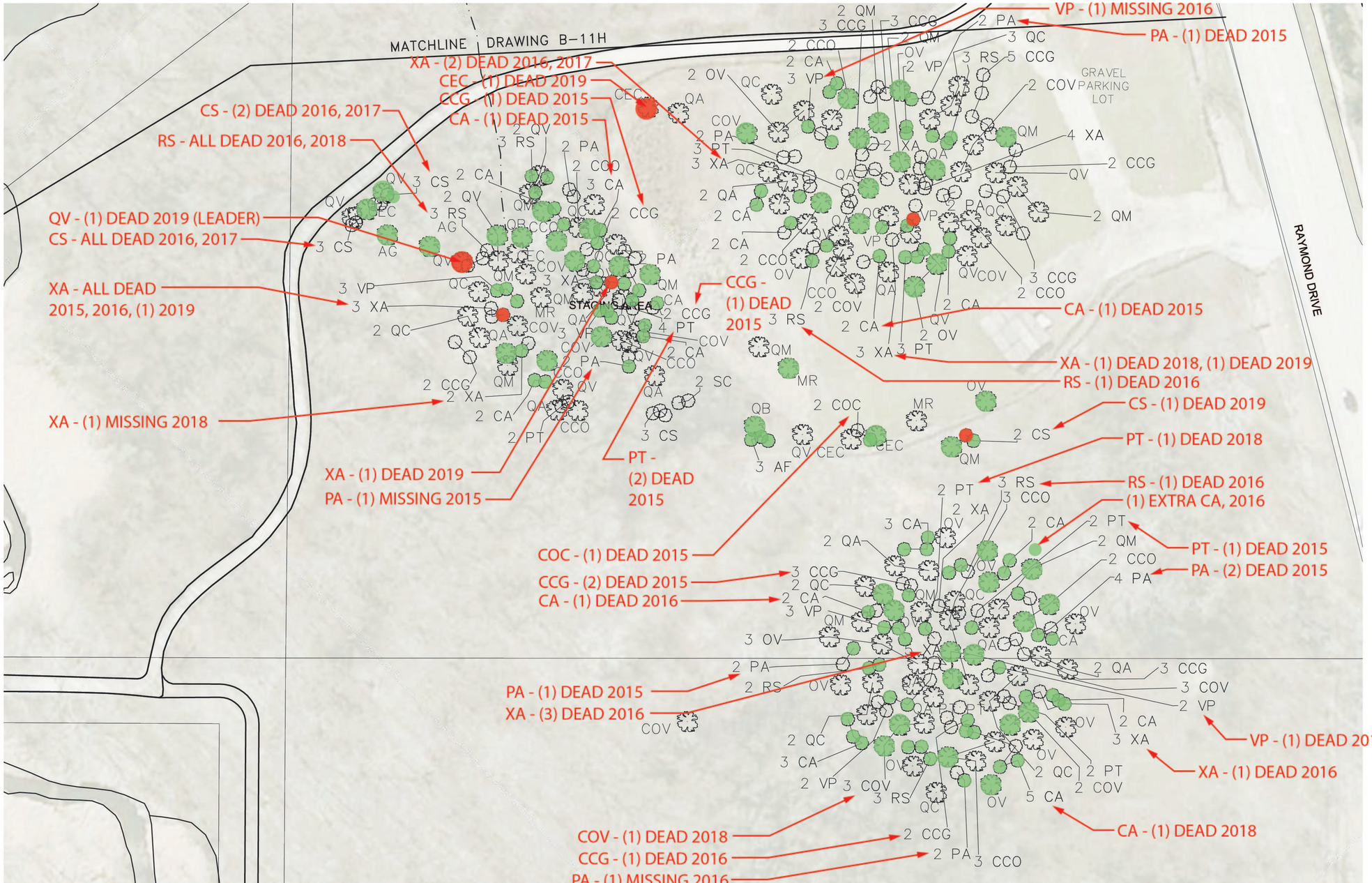
FIGURE
B-11H T



LEGEND:

QM TREE REMOVED FROM MONITORING

PA SHRUB REMOVED FROM MONITORING

ACCEPTABLE CONDITION

PLANT DEAD

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUP ON AUGUST 5, 2019.

0 40' 80'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

REACH 8
2019 TREE AND SHRUB MONITORING

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
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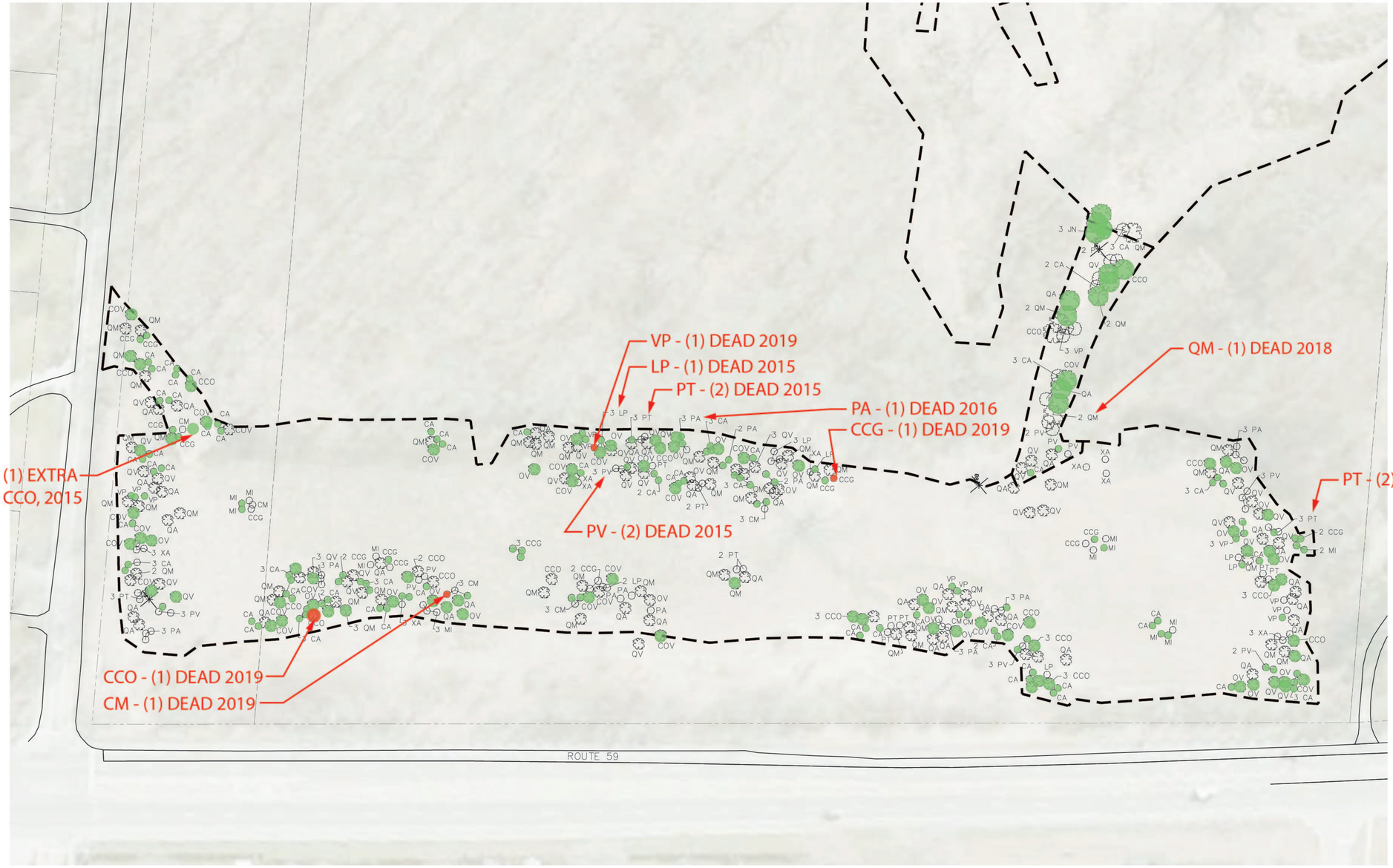
FIGURE
B-11I T

EXHIBIT C



LEGEND:

- QM — TREE REMOVED FROM MONITORING
- PA — SHRUB REMOVED FROM MONITORING
- ACCEPTABLE CONDITION
- PLANT DEAD

NOTE:

1. TREE AND SHRUB FIELD ASSESSMENT PERFORMED BY SMITHGROUP ON AUGUST 5, 2019.

0 50' 100'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2019 ANNUAL MONITORING

MACK ROAD STAGING AREA
2019 TREE AND SHRUB MONITORING

APPLIED ECOLOGICAL SERVICES SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
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608.251.1177
www.smithgroup.com

FIGURE
12-6 T

EXHIBIT C

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix A

Maintenance and Management Field Reports

APPLIED ECOLOGICAL SERVICES

WCERT Native Vegetation Management Inspection Report

To:	Deepak Bhojwani (WCERT), Jessie Fink (SmithGroup), Mike Polito (Tallgrass Restoration), Mark O'Leary (AES), Bill Stoll (AES) and Cecily Cunz (AES)
From:	Will Overbeck (AES)
Project Name:	Kress Creek / West Branch DuPage River
Project Client:	West Chicago Environmental Response Trust (WCERT)
AES Project #:	18-0866
Date:	May 1, 2019

On April 24, I inspected the two WCERT sites that have already received management treatments this spring, Reach 5D Upland Savanna and Reach 5E, to assess their progress.

Reach 5D Upland Savanna

Site: 0.23 acres savanna restoration

Forest Preserve District of DuPage County has cleared brush from the woods adjacent to Mack Road Staging Area and Reach 5D Upland Savanna. This will help the savanna vegetation develop and establish dominance. A small area (15 x 20 ft) that was dominated by non-native species has been tilled by Tallgrass Restoration in preparation for re-seeding this spring (Photos 1 & 2). Herbicide will be applied to the area again prior to seeding. Invasive species observed adjacent to the tilled area include white clover, red clover, bluegrass, dandelion, tall fescue, and white sweet clover. A few native species were observed adjacent to the tilled area, including Virginia rye, bergamot, bur oak, hazelnut, and chokecherry.

Reach 5E

Site: 4.3 acres mostly savanna restoration with some wetland and floodplain restoration

A very thorough prescribed fire was completed by Tallgrass Restoration earlier this spring (April 9) (Photos 3-6). Bare soil should allow further germination of native seeds, but mowing will need to continue until establishment. Invasive species observed include yellow rocket, dandelion, curly dock, smooth brome, mullien, white clover, English plantain, sulfur cinquefoil, and red clover.

Native species observed include black eyed Susan, Canada anemone, hairy aster, false sunflower, blue vervain, bergamot, blue violet, field thistle, brown eyed Susan, grey coneflower, evening primrose, and purple coneflower.

Photos

Photo 1. Reach 5D Upland Savanna tilled area, April 24, 2019.

Photo 2. Reach 5D Upland Savanna tilled area, April 24, 2019.

Photo 3. Reach 5E, burned prairie planting, April 24, 2019.

Photo 4. Reach 5E, burned prairie planting, April 24, 2019.

Photo 5. Reach 5E, burned prairie planting, April 24, 2019.

Photo 6. Reach 5E, burned prairie planting, April 24, 2019.

APPLIED ECOLOGICAL SERVICES

WCERT Native Vegetation Management Inspection Report

To:	Deepak Bhojwani (WCERT), Jessie Fink (SmithGroupJJR), Mike Polito (Tallgrass Restoration), Mark O'Leary (AES), and Cecily Cunz (AES)
From:	Bill Stoll (AES)
Project Name:	Kress Creek / West Branch DuPage River
Project Client:	West Chicago Environmental Response Trust (WCERT)
AES Project #:	19-0866
Date:	June 19, 2019

On June 5, 6, and 12, AES inspected all the WCERT sites currently being managed by Tallgrass to assess their condition and recommend future management. These include Reach 5D, Reach 5E, Reach 8, Areas 4, 5, 6, 11 & 12, and Pod 8-3. We also conducted our spring monitoring at these sites on June 5 and 6. Management recommendations were emailed to Tallgrass on June 7, and they conducted management activities on June 7 and 10. Additional recommendations were emailed to Tallgrass on June 14. Another spot herbiciding trip is recommended in the following areas within the next two weeks: Reach 5D, Reach 5E, Reach 8, Areas 11 & 12, and Pod R8-3.

Reach 5D (Mack Road) (Photo 1)
Site: 0.23 acres savanna restoration
Previous 2019 Management: A small area (15 x 20 ft) at west end of the area was tilled and then herbicided earlier in the spring, and then seeded on May 22.
Site Assessment: The site contains native forbs and grasses, such as wild rye, along with lots of non-native species, including clover, sweet clover, cheatgrass (*Bromus tectorum*). Little germination seen in the reseeded area.
Management Recommendations: Pull and remove sweet clover. Carefully spot herbicide cheatgrass and clover. Reseed killed off area with wild rye and a couple native forbs.
Management Activities: Clover, cheatgrass, and other cool season grasses spot herbicided and sweet clover pulled and removed on June 7.

Reach 5E (Photos 2-6)
Site: 4.3 acres mostly savanna restoration with some wetland and floodplain restoration
Previous 2019 Management: The savanna restoration area was burned on April 9.
Site Assessment: The reseeded savanna area contains scatted native forbs, such as black-eyed Susan and brown-eyed Susan, some native grasses, such as big bluestem, but is still dominated by weedy species, such as foxtail, common ragweed, fleabane, *Plantago* spp., and clover. Natives are more abundant in the northern section of the savanna area.
Management Recommendations: Mow savanna area (10'-12' high) as soon as possible then spot herbicide clover, sweet clover, *Plantago* spp., and mullen. Spot herbicide RCG and moneywort in the floodplain areas.
Management Activities: Savanna was mowed, and RCG and moneywort were spot herbicided along the river on June 7.

Reach 8B Area 11 (Photos 7&8)
Site: 0.5 acres floodplain management
Note: Areas on both sides of the east end of the bridge disturbed during the bridge construction were planted with turf grass and shrubs in spring 2018 and are being mowed. Much of the WCERT managed area south of bridge is being mowed.
Previous 2019 Management: None.
Site Assessment: Marsh aster dominates the site, and native cover is very good. RCG, black mustard, and a few woody resprouts (e.g. silver maple) need to be managed.
Management Recommendations: Spot herbicide RCG, black mustard, thistle, and Canada goldenrod, and cut and treat resprouts north of bridge and manage the same plus Kentucky bluegrass south of the bridge. Remove a yellow iris (*Iris pseudacorus*) just east of boat launch.
Management activities: RCG, Kentucky blue grass, Canada goldenrod, and woody resprouts were treated on June 10.

Reach 8B Area 12 (Photos 9&10)
Site: 8.98 acres of mostly prairie and some wetland and floodplain restoration
Note: The staging area along Raymond Drive was seeded in the spring 2018 and is dominated by clover and non-native cool season grasses and is being mowed.
Previous 2019 Management: None.
Site Assessment: Native cover is good but non-native species, especially cool season grasses, are scattered throughout.
Management recommendations: Spot herbicide cool season grasses (Kentucky bluegrass, cheatgrass, red top, and squirrel tail) throughout, especially in large main area NW of trail. Spot herbicide RCG, clover, sweet clover, thistle, and Canada goldenrod throughout. RCG is most common SE of trail, just NW of trail, and at far N end of site. Spot mow giant ragweed SE of trail. Cut and treat common buckthorn and honeysuckle at N end of site. Spot herbicide or cut cocklebur, woody resprouts, and other weedy species in the two streambank restoration areas.
Management activities: RCG, other cool season grass, clover, sweet clover, thistle, and Canada goldenrod were spot herbicided on June 10. Buckthorn and honeysuckle were also cut and herbicided on the same day.

Reach 8A Area 4- 6 (Photo 11)
Sites: 0.35, 0.28, and 0.23 acre wetland and floodplain restorations
Previous 2019 Management: None.
Site Assessment: Native cover is very good, but RCG is present especially in Area 4.
Management Recommendations: Carefully spot herbicide RCG but limit foot traffic – make one pass through. Also herbicide purple loosestrife and moneywort during pass.
Management Activities: RCG, purple loosestrife, and moneywort were herbicided on June 7. Wet prairie plugs will be installed on June 20.

Reach 8 Pod R8-3
Site: 0.14 acres woodland and river bank management.
Previous 2019 Management 2018: Woodland seeded with wild rye on May 22.
Note: Wide path mowed near bridge.
Site Assessment: Jewelweed dominates most of the woodland edge, but non-native grasses and garlic mustard are still present at west end. River bank is also dominated by natives.

Management Recommendations: Spot herbicide orchard grass and smooth brome at west end of woods. Remove climbing false buckwheat along river and herbicide creeping Charlie and other weedy species.
Management Activities: Orchard grass and smooth brome were spot herbicided and climbing false buckwheat was removed on June 7.

Photos

Photo 1. Reach 5D Upland Savanna, looking west. June 5, 2019.

Photo 4. Reach 5E. Floodplain area, looking southeast. June 5, 2019.

Photo 2. Reach 5E. Northern Savanna area, looking southwest. June 5, 2019.

Photo 5. Reach 5E. Northern Savanna area after mowing, looking southwest. June 12, 2019.

Photo 3. Reach 5E. Southern Savanna area, looking northeast. June 5, 2019.

Photo 6. Reach 5E. Southern Savanna area after mowing, looking southwest. June 12, 2019.

Photo 7. Reach 8B, McDowell Grove, Area 11. Riverbank north of bridge, looking northeast. June 12, 2019.

Photo 8. Reach 8B, McDowell Grove, Area 11. Riverbank south of bridge, looking southeast. June 12, 2019.

Photo 9. Reach 8B, McDowell Grove, Area 12. North end of upland prairie, looking south. June 12, 2019.

Photo 10. Reach 8B, McDowell Grove, Area 12. South end of upland prairie, looking northeast. June 12, 2019.

Photo 11. Reach 8A, Area 6. Floodplain along DuPage River, looking north June 12, 2019.

From: William W. Stoll <bill@appliedeco.com>
Sent: Thursday, July 25, 2019 6:41:48 PM
To: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Cc: Bhojwani, Deepak <Deepak.Bhojwani@WestonSolutions.com>; Mark J. O'Leary <mark.oleary@appliedeco.com>; Cecily M. Cunz <cecily.cunz@appliedeco.com>
Subject: WCERT management recommendations

Mike – As we discussed briefly earlier this week, I inspected all the WCERT sites last Friday. Below are my management recommendations:

Reach 5D (Mack Rd.) (Upland Savanna): Mow common ragweed and cover crop in recently seed area at W end. Mow tall ragweed along N edge of area. Previous spot herbiciding was very effective. So no need to spray again, just let natives fill in. Remove sweet clover in staging area adjacent to W end of site to prevent it from spreading into area.

Reach 5E: Do not mow. Lots of native forbs are in flower and some grasses have established. Spot herbicide clover and plantain again. Previous spot herbiciding was effective (~80-90% kill), but site would benefit from a follow up treatment (especially N end of N area). Better to do all this work on foot to prevent crushing recently established vegetation. Previous vehicle/equipment use has left track marks.

Reach 8B Area 11: North side – remove black mustard, and cut yellow iris, bindweed, and giant ragweed. South side – cut giant ragweed and cut or spot herbicide Canada goldenrod and mugwort.

Reach 8B Area 12: Remove sweet clover, spot spray clover and RCG, and cut giant ragweed. These are most common S and SE of path, just NW of path, and at the far N end of site.

Reach 8A:
Area 6 – (S segment) Remove small black locust trees and lower branches of larger black locust. Remove black mustard. (*Check N segment – I did not inspect*)
Area 5 – Cut few common buckthorn resprout just N of access to site. No need to spot spray.
Area 4 – Carefully spot herbicide little remaining RCG and purple loosestrife, cut ragweed, and remove black mustard.
Pod R8-3 – Remove small (<2" DBH) mulberry and box elder and tickseed in the woods. Cut giant ragweed and resprouting elm along the river.

Let me know if you have any questions.

Bill

APPLIED ECOLOGICAL SERVICES

WCERT Native Vegetation Management Inspection Report

To:	Deepak Bhojwani (WCERT), Jessie Fink (SmithGroupJJR), Mike Polito (Tallgrass Restoration), Mark O'Leary (AES), and Cecily Cunz (AES)
From:	Bill Stoll (AES)
Project Name:	Kress Creek / West Branch DuPage River
Project Client:	West Chicago Environmental Response Trust (WCERT)
AES Project #:	19-0866
Date:	August 13, 2019

On July 19 AES inspected all the WCERT sites currently being managed by Tallgrass to assess their condition and recommend future management. These include Reach 5D, Reach 5E, Reach 8, Areas 4, 5, 6, 11 & 12, and Pod 8-3. Management recommendations were emailed to Tallgrass on July 25, and they conducted management activities in Reach 5E on July 29. Management in all other reaches will occur later this week or early next week. *Previous 2019 Management (6/5 – 7/19)* below lists all the management activities that have occurred at each site since the previous site inspection (June 5, 6 & 12) but before this inspection (July 19).

Reach 5D (Mack Road) (Photos 1 & 2)
Site: 0.23 acres savanna restoration
Previous 2019 Management (6/5 – 7/19): Clover, cheatgrass, and other cool season grasses were spot herbicided, and sweet clover was pulled and removed on June 7. The west end was reseeded with wild rye and a couple native forbs on June 26.
Site Assessment: Native forbs and grasses are well established. Previous spot herbiciding of cool season grasses was very effective. Common ragweed and cover crop are common in reseed area at west end of site, and giant ragweed is common along north edge of site. Sweet clover is very common at the west end of site and adjacent Staging Area.
Management Recommendations: Mow common ragweed and cover crop in recently seed area at west end. Mow giant ragweed along north edge of area. Since previous spot herbiciding was very effective, no need to spray again - just let natives fill in. Remove sweet clover from the west end of the site and in staging area adjacent to west end to prevent it from spreading back into the area.
Management Activities: Scheduled to occur within the next week.

Reach 5E (Photos 3-6)
Site: 4.3 acres mostly savanna restoration with some wetland and floodplain restoration
Previous 2019 Management (6/5 – 7/19): Savanna was mowed, and RCG and moneywort were spot herbicided along the river on June 7.
Site Assessment: Lots of native forbs are in flower and some grasses have established. Site is dominated by foxtail, annual fleabane, black-eyed Susan, brown-eyed Susan, and scattered native grasses (e.g. big bluestem). Previous spot herbiciding in savanna was very effective (~80-90% mortality). Natives are more abundant in the northern section of the savanna area. Herbiciding was also effective along the river with 90% mortality of reed canary grass and 50% of moneywort.

Management Recommendations: Do not mow savanna. Spot herbicide clover and plantain (*Plantago* spp.) again. Even though previous spot herbiciding was very effective, the site would benefit from a follow up treatment (especially north end of north area). All this work should be done on foot to prevent crushing recently established vegetation. Previous vehicle/equipment use has left track marks.
Management Activities (since 7/19): Spot herbicided reed canary grass (shoreline) and red and white clover (savanna), and spot mowed ragweed and Queen Anne' lace (savanna) on July 29.

Reach 8B Area 11 (Photos 7-9)
Site: 0.5 acres floodplain management
Note: Mowing seems to have stopped in the areas on both sides of the east end of the new bridge that were seeded and planted with shrubs in spring 2018 after construction was completed. Some natives (e.g. black-eyed Susan) have established in these areas.
Previous 2019 Management (6/5 – 7/19): Reed canary grass, Kentucky blue grass, Canada goldenrod, and woody resprouts were treated on June 10.
Site Assessment: Native cover is very good, and area is dominated by marsh aster, knotweed/water pepper (*Polygomun* spp.), and common beggar's tick (*Bidens frondosa*). Previous spot herbiciding of reed canary grass was very effective.
Management Recommendations: North side – Remove black mustard, and cut yellow iris, bindweed, and giant ragweed. South side – Cut giant ragweed and cut or spot herbicide Canada goldenrod and mugwort.
Management Activities: Scheduled to occur within the next week.

Reach 8B Area 12 (Photos 10-15)
Site: 8.98 acres of mostly prairie and some wetland and floodplain restoration
Note: The staging area along Raymond Drive was seeded in the spring 2018 and is dominated by clover and non-native cool season grasses and is being mowed.
Previous 2019 Management (6/5 – 7/19): Reed canary grass, other cool season grass, clover, sweet clover, thistle, and Canada goldenrod were spot herbicided on June 10. Buckthorn and honeysuckle were also cut and herbicided on the same day.
Site Assessment: Site is dominated by native forbs, grasses, and sedges but non-native species persist, and some are locally abundant as described in the management recommendations. Herbiciding of reed canary grass has been very effective (~90% mortality).
Management recommendations: Remove sweet clover, spot spray clover and reed canary grass, and cut giant ragweed. These are most common south and southeast of path, just northwest of path, and at the far north end of site.
Management Activities: Scheduled to occur within the next week.

Reach 8A Area 4- 6 (Photos 16-19)
Sites: 0.35, 0.28, and 0.23 acre wetland and floodplain restorations
Previous 2019 Management (6/5 – 7/19): Reed canary grass, purple loosestrife, and moneywort were herbicided on June 7. Wet prairie plugs (600) were installed in Area 4 on June 19.
Site Assessment: All three areas have very good cover (>90%) and are dominated by natives including brown-eyed Susan, marsh aster, Virginia wild rye, knotweed/water pepper, cupplant, golden glow, and turtlehead.
Management Recommendations:
Area 6 – (south segment) Remove small black locust trees and lower branches of larger black locust to allow more sunlight to reach the ground. Remove black mustard. Inspect north segment and manage as needed.

Area 5 – Cut few common buckthorn resprout just north of access to site. No need to spot spray.
Area 4 – Carefully spot herbicide little remaining reed canary grass and purple loosestrife, cut ragweed, and remove black mustard.
Management Activities: Scheduled to occur within the next week.

Reach 8 Pod R8-3 (Photo 20)
Site: 0.14 acres woodland and river bank management.
Note: Wide path mowed near bridge, perhaps by neighbors.
Previous 2019 Management (6/5 - 7/19): Orchard grass and smooth brome were spot herbicided and climbing false buckwheat was removed on June 7.
Site Assessment: Jewelweed dominates most of the woodland edge, but some weedy species persist, and the river bank is also dominated by natives.
Management Recommendations: Remove small (<2" DBH) mulberry and box elder and tickseed in the woods. Cut giant ragweed and resprouting elm along the river.
Management Activities: Scheduled to occur within the next week.

Photos

Photo 1. Reach 5D Upland Savanna, looking east. July 19, 2019.

Photo 4. Reach 5E. Southern Savanna area, looking southwest. July 19, 2019.

Photo 2. Reach 5D. Upland Savanna, looking west. July 19, 2019.

Photo 5. Reach 5E. Savanna corridor near river, looking southeast. July 19, 2019.

Photo 3. Reach 5E. Northern Savanna area, looking southwest. July 19, 2019.

Photo 6. Reach 5E. Savanna corridor and floodplain, looking southwest. July 19, 2019.

Photo 7. Reach 8B, McDowell Grove, Area 11. East end of riverbank, looking east. July 19, 2019.

Photo 10. Reach 8B, McDowell Grove, Area 12. South end of upland prairie and wetland, looking east. July 19, 2019.

Photo 8. Reach 8B, McDowell Grove, Area 11. Riverbank north of bridge, looking northeast. July 19, 2019.

Photo 11. Reach 8B, McDowell Grove, Area 12. Floodplain east of path (T8), looking east. July 19, 2019.

Photo 9. Reach 8B, McDowell Grove, Area 11. Riverbank south of bridge, looking southwest. July 19, 2019.

Photo 12. Reach 8B, McDowell Grove, Area 12. Repaired streambank at east end of T8, looking south. July 19, 2019.

Photo 13. Reach 8B, McDowell Grove, Area 12. North end of upland prairie, looking north. July 19, 2019.

Photo 14. Reach 8B, McDowell Grove, Area 12. Upland prairie, looking southeast. July 19, 2019.

Photo 15. Reach 8B, McDowell Grove, Area 12. Upland prairie, looking north. July 19, 2019.

Photo 16. Reach 8A, Area 6 (south portion). Floodplain along DuPage River, looking north, July 19, 2019.

Photo 17. Reach 8A, Area 5. Floodplain along DuPage River, looking north, July 19, 2019.

Photo 18. Reach 8A, Area 5. Floodplain along DuPage River, looking south, July 19, 2019.

Photo 19. Reach 8A, Area 4. Floodplain along DuPage River, looking north, July 19, 2019.

Photo 20. Reach 8A, Pod R8-3. Floodplain along DuPage River, looking south, July 19, 2019.

Fri 9/20/2019 5:02 PM
William W. Stoll <bill@appliedeco.com>
RE: WCERT management
To: Mike Polito Mike.Polito@tallgrassrestoration.com

Mike – I got feed back from Mark and Will. See my changes to recommendation below in red.

Let me know if you have questions.

Bill

From: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Sent: Tuesday, September 17, 2019 12:22 PM
To: William W. Stoll <bill@appliedeco.com>
Subject: RE: WCERT management

Smart thinking Bill, it is shadier along that stretch than most places. I need to place a small seed order for another project, I will get a small amount of those species mixed together as well.

Mike

From: William W. Stoll <bill@appliedeco.com>
Sent: Monday, September 16, 2019 2:27 PM
To: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Subject: RE: WCERT management

Mike – I think we will need more share tolerant Rye at Pod R8-3 – Silky and Virginia Rye (not Canada) or bottle brush grass or Bromus purgans.

Bill

From: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Sent: Monday, September 16, 2019 9:29 AM
To: William W. Stoll <bill@appliedeco.com>
Subject: RE: WCERT management

Hi Bill,

Thank you for the updates! I agree with your proposed actions for this year, and I think a burn at 5d and 5e could help open things up considerably.

I still have some leftover Canada/Virginia Wild Rye mix and can get that out to Pod R8-3 this fall too. Are we sure the Rye is killed dead at 5d, and not just going dormant already? I've seen browned out Rye grasses at other sites lately as well. Either way

we've got enough seed in hand to overseed the area, probably beneficial to wait until after a burn if we want to confirm that, otherwise I can put it down this fall too.

Mike

From: William W. Stoll <bill@appliedeco.com>
Sent: Friday, September 13, 2019 5:22 PM
To: Mike Polito <Mike.Polito@tallgrassrestoration.com>
Subject: WCERT management

Mike – We did our transect monitoring at the WCERT site last week (9/3-9/4). Below are some of our recommendations. I'm checking these with others and will confirm early next week.

Reach 8A
Areas 4-6 – look great and don't need management
Pod 8-3 -Remove ACENEG and MORALB
- cut AMBTRI at S end along river
- Seed Virginia rye, Silky rye, bottle brush grass, or woodland brome in dead area at NW end of woods

Reach 8B
T1&T2 - remove cockle burr and giant ragweed
-reduce goldenrod south of bridge
T3 (and most of the upland areas)
- Herbicide Kentucky bluegrass S of trail
- Herbicide ERIVIL (hairy cupgrass), clover, ~~AGRALA (red top)~~ , K. bluegrass, and sweet clover – throughout area. Red top not on the Invasive Weed list.
- Cut black locust
- Herbicide SOLCAN at N end

Floodplain / wet woodland - Remove giant ragweed S & E of trail.

5D- Upland Savannah
- Looks like lots of ELYVIR may have been killed by herbicide along w/ ERIVIL
- Burn and overseed? Yes, burn in spring and over seed w/ Virginia wild rye and Canada wild rye and several hundred plugs of a couple forbs.

Reach 5E – Burn again next spring and overseed? Yes, burn again next spring and over seed w/ a couple easy to establish native forbs (e.g. *Cassia faciculata* and *Rudbeckia* sp.) and a couple native grasses. Need to make sure species are on the approved list.

Thanks,
Bill

APPLIED ECOLOGICAL SERVICES

WCERT Sign Off Site Walk Through Report

To:	Deepak Bhojwani (WCERT), Kurt Stimpson (WCERT), Jessie Fink (SmithGroup), Mark O'Leary (AES), Bill Stoll (AES), Jamie Lock (DuPage Co.), and Jenna Fayhey (DuPage Co.), and David Seely (USEPA).
From:	Bill Stoll (AES)
Project Name:	Kress Creek / West Branch DuPage River
Project Client:	West Chicago Environmental Response Trust (WCERT)
AES Project #:	18-0866
Date:	October 14, 2019

On October 2, WCERT and their consultants (AES and SmithGroup) conducted a sign off walk through of Reaches 8A and 8B with representatives of the local communities, DuPage County, and USEPA.

Attendees:
Deepak Bhojwani (WCERT)
Kurt Stimpson (WCERT)
Jessie Fink (SmithGroup)
Mark O'Leary (AES)
Bill Stoll (AES)
Jamie Lock (DuPage Co.)
Jenna Fayhey (DuPage Co./local communities)
David Seely (USEPA)

2019 Monitoring Results and Observations
A summary of 2019 vegetation monitoring results and tree and shrub survivorship results were shared with all attendees before the Walk Though.

- Reach 8A
  - Both performance standards (90% cover and <5% invasive species) and three of five Evaluation Metrics (increasing Native RIV, no bare ground>0.5 m^2, and 3 dominant species native) were met.
  - Observed vegetation was consistent with the monitoring results (i.e. very high total and native cover).
  - Some bare spots were noted, likely from recent herbicide treatment.
  - No installed trees and shrubs.
  - Equipment from bridge repair was left in Pod R8-3 near the river and vegetation was disturbed elsewhere in the area.
  - The County and local communities indicated that the Reach was ready for sign off but that the Evaluation Metrics that are not met will need to be addressed.

120 West Main Street, West Dundee, Illinois 60118 Voice: 847-844-9385, Fax: 847-844-8759
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- Reach 8B
    - Both performance standards (90% cover and <5% invasive species) and all five Evaluation Metrics (mean C> 3.5, increasing Native FQI, increasing Native RIV, no bare ground>0.5 m^2, and 3 dominant species native) were met.
    - Both tree (75%) and shrub (67%) survivorship is below acceptance criteria (90%).
    - The County and local communities indicated that the Reach was ready for sign off but that tree and shrub replacement will need to be addressed.

Action Items

- Bare areas in Reach 8A, Areas 4-6, will be over-seeded with appropriate wetland/floodplain species in early November.
- Far north end of the woodland in Pod R8-3 will be over-seeded with native woodland grasses in early November.
- AES will send picture of Pod R8-3 taken during vegetation monitoring on September 5th.
- AES/WCERT will provide an explanation in the Restoration Completion Report of why some Evaluation Metrics are not being met in Reach 8A.
- The County will get back to WCERT on how tree and shrub survivorship should be addressed.

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2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix B

Vascular Plant Inventory Data

.

SITE: WCERT
LOCALE: 5D Upland Savanna
BY: WS, MO, WO
DATE: 6/6/2019 9/5/2019

CONSERVATISM- BASED METRICS	
MEAN C (NATIVE SPECIES)	3.29
MEAN C (ALL SPECIES)	2.18
MEAN C (NATIVE TREES)	4.67
MEAN C (NATIVE SHRUBS)	4.67
MEAN C (NATIVE HERBACEOUS)	2.91
FQAI (NATIVE SPECIES)	21.08
FQAI (ALL SPECIES)	17.15
ADJUSTED FQAI	26.78
% C VALUE 0	0.44
% C VALUE 1-3	0.23
% C VALUE 4-6	0.31
% C VALUE 7-10	0.03

ADDITIONAL METRICS	
SPECIES RICHNESS (ALL)	62
SPECIES RICHNESS (NATIVE)	41
% NON-NATIVE	0.34
WET INDICATOR (ALL)	0.73
WET INDICATOR (NATIVE)	0.56
% HYDROPHYTE (MIDWEST)	0.27
% NATIVE PERENNIAL	0.56
% NATIVE ANNUAL	0.06
% ANNUAL	0.18
% PERENNIAL	0.76

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ABUTHE	Abutilon theophrasti	ABUTILON THEOPHRASTI	Velvetleaf	0	FACU	FACU	1	Forb	Annual	Adventive
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
ALLCAN	Allium canadense	Allium canadense	Meadow Garlic	3	FACU	FACU	1	Forb	Perennial	Native
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
BROJAP	Bromus arvensis	BROMUS JAPONICUS	Field Brome	0	FACU	FACU	1	Grass	Annual	Adventive
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
BROTEC	Bromus tectorum	BROMUS TECTORUM	Downy Chess	0	UPL	UPL	2	Grass	Annual	Adventive
CARCOR	Carya cordiformis	Carya cordiformis	Bitter-Nut Hickory	5	FACU	FAC	1	Tree	Perennial	Native
CAROVT	Carya ovata	Carya ovata	Shag-Bark Hickory	5	FACU	FACU	1	Tree	Perennial	Native
EUPSUP	Chamaesyce maculata	Euphorbia maculata; Euphorbia supina	Spotted Sandmat	0	FACU	FACU	1	Forb	Annual	Native
CONMAJ	Convallaria majalis	CONVALLARIA MAJALIS	Lily-of-the-Valley	0	UPL	UPL	2	Forb	Perennial	Adventive
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	FACU	1	Shrub	Perennial	Native
DACGLO	Dactylis glomerata	DACTYLIS GLOMERATA	Orchard Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	UPL	2	Forb	Biennial	Adventive

DIGSAN	Digitaria sanguinalis	DIGITARIA SANGUINALIS	Hairy Crab Grass	0	FACU	FACU	1	Grass	Annual	Adventive
ECHPUR	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	UPL	2	Forb	Perennial	Native
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	FACU	1	Grass	Perennial	Native
ELYVIL	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	FACU	1	Grass	Perennial	Native
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
ERIVIL	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	UPL	2	Grass	Annual	Adventive
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
GERMAC	Geranium maculatum	Geranium maculatum	Spotted Crane's-Bill	5	FACU	FACU	1	Forb	Perennial	Native
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
HACVIR	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	FACU	1	Forb	Perennial	Native
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	FACU	1	Forb	Perennial	Native
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
LACCAN	Lactuca canadensis	Lactuca canadensis	Canadian Blue Lettuce	1	FACU	FACU	1	Forb	Biennial	Native
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	FACW	-2	Forb	Perennial	Native
MEDLUP	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	FACU	1	Forb	Annual	Adventive
MELALB	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	UPL	2	Forb	Biennial	Adventive
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
PANCAP	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	FAC	0	Grass	Annual	Native
PANVIR	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	FAC	0	Grass	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PLALAN	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	FACU	1	Forb	Perennial	Adventive
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
PTETRI	Ptelea trifoliata	Ptelea trifoliata	Common Hoptree	4	FACU	FACU	1	Shrub	Perennial	Native
QUEALB	Quercus alba	Quercus alba	Northern White Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEMAC	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
QUEVEL	Quercus velutina	Quercus velutina	Black Oak	5	UPL	UPL	2	Tree	Perennial	Native
RUDHIR	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	FACU	1	Forb	Perennial	Native

RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
FESELA	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
ANDSCO	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	FACU	1	Grass	Perennial	Native
SETGLA	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	FAC	0	Grass	Annual	Adventive
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
SYMNOV	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	FACW	-1	Forb	Perennial	Native
TAROFF	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIPRA	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIREP	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
VIBPRU	Viburnum prunifolium	Viburnum prunifolium	Smooth Blackhaw	5	FACU	FACU	1	Shrub	Perennial	Native
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native
ZIZAUR	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	FAC	0	Forb	Perennial	Native

SITE: WCERT
LOCALE: 5D Mack Rd
BY: WS, WO, MO
DATE: 6/6/2019. 9/5/2019

CONSERVATISM- BASED METRICS

MEAN C (NATIVE SPECIES)	3.81
MEAN C (ALL SPECIES)	2.91
MEAN C (NATIVE TREES)	3.81
MEAN C (NATIVE SHRUBS)	3.67
MEAN C (NATIVE HERBACEOUS)	3.79
FQAI (NATIVE SPECIES)	27.46
FQAI (ALL SPECIES)	24.01
ADJUSTED FQAI	33.30
% C VALUE 0	0.28
% C VALUE 1-3	0.25
% C VALUE 4-6	0.43
% C VALUE 7-10	0.04

ADDITIONAL METRICS

SPECIES RICHNESS (ALL)	68
SPECIES RICHNESS (NATIVE)	52
% NON-NATIVE	0.24
WET INDICATOR (ALL)	0.43
WET INDICATOR (NATIVE)	0.29
% HYDROPHYTE (MIDWEST)	0.47
% NATIVE PERENNIAL	0.71
% NATIVE ANNUAL	0.06
% ANNUAL	0.07
% PERENNIAL	0.90

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
AGRALB	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	FACW	-1	Grass	Perennial	Adventive
AMBTRI	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	FAC	0	Forb	Annual	Native
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
CXGRAN	Carex granularis	Carex granularis	Limestone-Meadow Sedge	3	FACW	FACW	-1	Sedge	Perennial	Native
CXSTIP	Carex stipata	Carex stipata	Stalk-Grain Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
CARCOR	Carya cordiformis	Carya cordiformis	Bitter-Nut Hickory	5	FACU	FAC	1	Tree	Perennial	Native
CAROVT	Carya ovata	Carya ovata	Shag-Bark Hickory	5	FACU	FACU	1	Tree	Perennial	Native
CIRARV	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
CONARV	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	UPL	2	Forb	Perennial	Adventive
CORTRI	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	FAC	0	Forb	Perennial	Native
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	FACU	1	Shrub	Perennial	Native

CRACRU	Crataegus crus-galli	Crataegus crus-galli; Crataegus acutifolia	Cock-Spur Hawthorn	3	FAC	FAC	0	Tree	Perennial	Native
CRAMOL	Crataegus mollis	Crataegus mollis	Downy Hawthorn	2	FAC	FAC	0	Tree	Perennial	Native
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
DESCAA	Desmodium canadense	Desmodium canadense	Showy Tick-Trefoil	4	FACU	FAC	1	Forb	Perennial	Native
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	FACU	1	Grass	Perennial	Native
EPICOL	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	OBL	-2	Forb	Perennial	Native
ERIVIL	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	UPL	2	Grass	Annual	Adventive
ERYYUC	Eryngium yuccifolium	Eryngium yuccifolium	Button Eryngo	9	FAC	FAC	0	Forb	Perennial	Native
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
EUTGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	FAC	-1	Forb	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	FACU	1	Forb	Perennial	Native
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
JUNINT	Juncus interior	Juncus interior	Inland Rush	4	FAC	FAC	0	Forb	Perennial	Native
LONPRO	Lonicera reticulata	Lonicera prolifera	Yellow Honeysuckle	8	UPL	UPL	2	Vine	Perennial	Native
MALIOE	Malus ioensis	Malus ioensis	Iowa Crab Apple	4	UPL	UPL	2	Tree	Perennial	Native
MELALB	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	UPL	2	Forb	Biennial	Adventive
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
MORALB	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
OSTVIR	Ostrya virginiana	Ostrya virginiana	Eastern Hop-Hornbeam	5	FACU	FACU	1	Tree	Perennial	Native
PANVIR	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	FAC	0	Grass	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	FACW	-1	Forb	Perennial	Native
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
PRUAME	Prunus americana	Prunus americana	American Plum	3	UPL	UPL	2	Tree	Perennial	Native

PRUVIR	Prunus virginiana	Prunus virginiana	Choke Cherry	3	FACU	FACU	1	Shrub	Perennial	Native
PTETRI	Ptelea trifoliata	Ptelea trifoliata	Common Hoptree	4	FACU	FACU	1	Shrub	Perennial	Native
PYRCAL	Pyrus calleryana	PYRUS CALLERYANA	Ornamental Pear	0	UPL	UPL	2	Tree	Perennial	Adventive
QUEALB	Quercus alba	Quercus alba	Northern White Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEELL	Quercus ellipsoidalis	Quercus ellipsoidalis	Hill's Oak	4	UPL	UPL	2	Tree	Perennial	Native
QUEMAC	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
QUERUB	Quercus rubra	Quercus rubra	Northern Red Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEVEL	Quercus velutina	Quercus velutina	Black Oak	5	UPL	UPL	2	Tree	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
RUDSPE	Rudbeckia fulgida var. sullivantii	Rudbeckia speciosa; Rudbeckia sullivantii	Orange Coneflower	6	OBL	OBL	-2	Forb	Perennial	Native
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
FESELA	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
SILINT	Silphium integrifolium	Silphium integrifolium var. deamii; Silphium integrifolium var. neglectum	Entire-Leaf Rosinweed	5	UPL	FAC	2	Forb	Perennial	Native
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
ASTERI	Symphyotrichum ericoides	Aster ericoides	White Heath American-Aster	6	FACU	FACU	1	Forb	Perennial	Native
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
ULMAME	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
ULMPUM	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	FACU	2	Tree	Perennial	Adventive
VIBPRU	Viburnum prunifolium	Viburnum prunifolium	Smooth Blackhaw	5	FACU	FACU	1	Shrub	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
XANAME	Zanthoxylum americanum	Xanthoxylum americanum	Toothachetree	3	FACU	FACU	1	Shrub	Perennial	Native
ZIZAUR	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	FAC	0	Forb	Perennial	Native

SITE: WCERT
LOCALE: 5E
BY: WS, WO. MO
DATE: 6/5/2019, 7/12/2019, 9/5/2019

CONSERVATISM- BASED METRICS	
MEAN C (NATIVE SPECIES)	3.30
MEAN C (ALL SPECIES)	2.51
MEAN C (NATIVE TREES)	4.00
MEAN C (NATIVE SHRUBS)	2.70
MEAN C (NATIVE HERBACEOUS)	3.29
FQAI (NATIVE SPECIES)	35.81
FQAI (ALL SPECIES)	31.25
ADJUSTED FQAI	28.76
% C VALUE 0	0.38
% C VALUE 1-3	0.23
% C VALUE 4-6	0.33
% C VALUE 7-10	0.06

ADDITIONAL METRICS	
SPECIES RICHNESS (ALL)	155
SPECIES RICHNESS (NATIVE)	118
% NON-NATIVE	0.24
WET INDICATOR (ALL)	0.21
WET INDICATOR (NATIVE)	-0.04
% HYDROPHYTE (MIDWEST)	0.49
% NATIVE PERENNIAL	0.65
% NATIVE ANNUAL	0.09
% ANNUAL	0.12
% PERENNIAL	0.81

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ACARHO	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	FACU	1	Forb	Annual	Native
ACESAU	Acer saccharum	Acer saccharum	Sugar Maple	5	FACU	FACU	1	Tree	Perennial	Native
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
ALNGLU	Alnus glutinosa	ALNUS GLUTINOSA	European Alder	0	FACW	FACW	-1	Tree	Perennial	Adventive
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
AMECAN	Amelanchier canadensis	Amelanchier canadensis	Canadian Service-Berry	0	FACU	FAC	1	Tree	Perennial	Adventive
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
ANECAN	Anemone canadensis	Anemone canadensis	Round-Leaf Thimbleweed	4	FACW	FACW	-1	Forb	Perennial	Native
ANEVIR	Anemone virginiana	Anemone virginiana	Tall Thimbleweed	5	FACU	FACU	1	Forb	Perennial	Native

ASCINC	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	OBL	-2	Forb	Perennial	Native
ASCSYR	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
ASCTUB	Asclepias tuberosa	Asclepias tuberosa	Butterfly-Weed	8	UPL	UPL	2	Forb	Perennial	Native
ASCVER	Asclepias verticillata	Asclepias verticillata	Whorled Milkweed	1	FACU	UPL	1	Forb	Perennial	Native
BARVUL	Barbarea vulgaris	BARBAREA VULGARIS	Garden Yellow-Rocket	0	FAC	FAC	0	Forb	Biennial	Adventive
BIDCER	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	OBL	-2	Forb	Annual	Native
BOECYL	Boehmeria cylindrica	Boehmeria cylindrica drummondiana	Small-Spike False Nettle	5	OBL	OBL	-2	Forb	Perennial	Native
BOUCUR	Bouteloua curtipendula	Bouteloua curtipendula	Side-Oats Grama	8	UPL	UPL	2	Grass	Perennial	Native
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
BROTEC	Bromus tectorum	BROMUS TECTORUM	Downy Chess	0	UPL	UPL	2	Grass	Annual	Adventive
CALCAN	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	OBL	-2	Grass	Perennial	Native
CXBLAN	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	FAC	0	Sedge	Perennial	Native
CXGRAN	Carex granularis	Carex granularis	Limestone-Meadow Sedge	3	FACW	FACW	-1	Sedge	Perennial	Native
CXGRIS	Carex grisea	Carex grisea	Inflated Narrow-Leaf Sedge	3	FAC	FAC	0	Sedge	Perennial	Native
CXLACU	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	OBL	-2	Sedge	Perennial	Native
CXPELL	Carex pellita	Carex pellita	Woolly Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
CXPLAN	Carex plantaginea	Carex plantaginea	Plantain-Leaf Sedge	10	UPL	UPL	2	Sedge	Perennial	Native
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
CAROVT	Carya ovata	Carya ovata	Shag-Bark Hickory	5	FACU	FACU	1	Tree	Perennial	Native
CERCAN	Cercis canadensis	Cercis canadensis	Redbud	5	FACU	FACU	1	Tree	Perennial	Native
CHANUT	Chamaesyce nutans	Chamaesyce nutans	Eyebane	0	FACU	FACU	1	Forb	Annual	Native
CIRARV	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
CIRDIS	Cirsium discolor	Cirsium discolor	Field Thistle	3	FACU	UPL	1	Forb	Biennial	Native
CONARV	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	UPL	2	Forb	Perennial	Adventive
CORSTO	Cornus alba	Cornus stolonifera; Cornus baileyi; Cornus sericea	Red Osier	5	FACW	FACW	-1	Shrub	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	FACU	1	Shrub	Perennial	Native
CRACRU	Crataegus crus-galli	Crataegus crus-galli; Crataegus acutifolia	Cock-Spur Hawthorn	3	FAC	FAC	0	Tree	Perennial	Native

CYPESC	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	FACW	-1	Sedge	Perennial	Native
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
ECHPUR	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	UPL	2	Forb	Perennial	Native
ECHCRU	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	FAC	-1	Grass	Annual	Native
ELAUMB	Elaeagnus umbellata	ELAEAGNUS UMBELLATA	Autumn-Olive	0	UPL	UPL	2	Shrub	Perennial	Adventive
ELEERY	Eleocharis palustris	Eleocharis erythropoda; Eleocharis palustris major; Eleocharis smallii; Eleocharis xyridiformis; Eleocharis macrostachya	Common Spike-Rush	1	OBL	OBL	-2	Sedge	Perennial	Native
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	FACU	1	Grass	Perennial	Native
ELYREP	Elymus repens	AGROPYRON REPENS; Elytrigia repens	Creeping Wild Rye	0	FACU	FACU	1	Grass	Perennial	Adventive
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
CONCAN	Erigeron canadensis	Conyza canadensis	Canadian Horseweed	0	FACU	FACU	1	Forb	Annual	Native
ERIVIL	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	UPL	2	Grass	Annual	Adventive
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
SOLGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	FAC	-1	Forb	Perennial	Native
FESOBT	Festuca subverticillata	Festuca obtusa	Nodding Fescue	5	FACU	FACU	1	Grass	Perennial	Native
FRAVIR	Fragaria virginiana	Fragaria virginiana	Virginia Strawberry	0	FACU	FACU	1	Forb	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native

GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
GLETRI	Gleditsia triacanthos	Gleditsia triacanthos	Honey-Locust	1	FACU	FAC	1	Tree	Perennial	Native
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	FACU	1	Forb	Perennial	Native
HYPPUN	Hypericum punctatum	Hypericum punctatum	Spotted St. John's-Wort	4	FAC	FAC	0	Forb	Perennial	Native
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
IRIVIR	Iris virginica var. shrevei	Iris virginica shrevei	Virginia Blueflag	5	OBL	OBL	-2	Forb	Perennial	Native
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
LACCAN	Lactuca canadensis	Lactuca canadensis	Canadian Blue Lettuce	1	FACU	FACU	1	Forb	Biennial	Native
LACSER	Lactuca serriola	LACTUCA SERRIOLA	Prickly Lettuce	0	FACU	FACU	1	Forb	Biennial	Adventive
LEEVIR	Leersia virginica	Leersia virginica	White Grass	5	FACW	FACW	-1	Grass	Perennial	Native
LEOCAR	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	UPL	2	Forb	Perennial	Adventive
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	FACW	-2	Forb	Perennial	Native
LONMAA	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	UPL	2	Shrub	Perennial	Adventive
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
LYCAME	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	OBL	-2	Forb	Perennial	Native
LYSCIL	Lysimachia ciliata	Lysimachia ciliata	Fringed Yellow-Loosestrife	7	FACW	FACW	-1	Forb	Perennial	Native
LYSTHY	Lysimachia thyrsiflora	Lysimachia thyrsiflora	Tufted Yellow-Loosestrife	8	OBL	OBL	-2	Forb	Perennial	Native
MELALB	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	UPL	2	Forb	Biennial	Adventive
MELLOF	Melilotus officinalis	MELILOTUS ALBA	Yellow Sweet-Clover	0	FACU	FACU	1	Forb	Biennial	Adventive
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
MORALB	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
MUHMEX	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	FACW	-1	Grass	Perennial	Native
MUHSCH	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	FAC	0	Grass	Perennial	Native
NEPCAT	Nepeta cataria	NEPETA CATARIA	Catnip	0	FACU	FACU	1	Forb	Perennial	Adventive
OENBIE	Oenothera biennis	Oenothera biennis	King's-Cureall	0	FACU	FACU	1	Forb	Biennial	Native
OSTVIR	Ostrya virginiana	Ostrya virginiana	Eastern Hop-Hornbeam	5	FACU	FACU	1	Tree	Perennial	Native
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native

OXYRIG	Oxypolis rigidior	Oxypolis rigidior	Stiff Cowbane	8	OBL	OBL	-2	Forb	Perennial	Native
PANCAP	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	FAC	0	Grass	Annual	Native
PANDIC	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	FACW	-1	Grass	Annual	Native
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
POLAMP	Persicaria amphibia	Polygonum coccineum; Polygonum amphibium stipulaceum	Water Smartweed	4	OBL	OBL	-2	Forb	Perennial	Native
POLPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	FACW	-1	Forb	Perennial	Native
PLALAN	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	FACU	1	Forb	Perennial	Adventive
PLAMAJ	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	FACU	0	Forb	Perennial	Adventive
PLARUG	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	FAC	0	Forb	Annual	Native
POTNOR	Potentilla norvegica	Potentilla norvegica	Norwegian Cinquefoil	0	FAC	FAC	0	Forb	Annual	Native
PRUVULL	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	FAC	0	Forb	Perennial	Native
PRUAME	Prunus americana	Prunus americana	American Plum	3	UPL	UPL	2	Tree	Perennial	Native
PRUSER	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	FACU	1	Shrub	Perennial	Native
PTETRI	Ptelea trifoliata	Ptelea trifoliata	Common Hoptree	4	FACU	FACU	1	Shrub	Perennial	Native
PYCVIR	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	FACW	-1	Forb	Perennial	Native
QUEALB	Quercus alba	Quercus alba	Northern White Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEELL	Quercus ellipsoidalis	Quercus ellipsoidalis	Hill’s Oak	4	UPL	UPL	2	Tree	Perennial	Native
QUEMAC	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
QUERUB	Quercus rubra	Quercus rubra	Northern Red Oak	5	FACU	FACU	1	Tree	Perennial	Native
RATPIN	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	UPL	2	Forb	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
RHUGLA	Rhus glabra	Rhus glabra	Smooth Sumac	1	UPL	UPL	2	Shrub	Perennial	Native
ROBPSE	Robinia pseudoacacia	ROBINIA PSEUDOACACIA	Black Locust	0	FACU	FACU	1	Tree	Perennial	Adventive
ROSMUL	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	FACU	1	Shrub	Perennial	Adventive
RUBOCC	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	UPL	2	Shrub	Perennial	Native

RUDHIR	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	FACU	1	Forb	Perennial	Native
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
RUDSUB	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	FACU	1	Forb	Perennial	Native
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SAGLAT	Sagittaria latifolia	Sagittaria latifolia	Duck-Potato	3	OBL	OBL	-2	Forb	Perennial	Native
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SAMCAN	Sambucus nigra ssp. canadensis	Sambucus canadensis	Black Elder	4	FAC	FACW	-1	Shrub	Perennial	Native
SANGRE	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	FAC	0	Forb	Perennial	Native
SCHSCO	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	FACU	1	Grass	Perennial	Native
SCIFLU	Schoenoplectus fluviatilis	Scirpus fluviatilis; Bolboschoenus fluviatilis	River Club-Rush	4	OBL	OBL	-2	Sedge	Perennial	Native
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	OBL	-2	Sedge	Perennial	Native
SCIPEN	Scirpus pendulus	Scirpus pendulus	Rufous Bulrush	2	OBL	OBL	-2	Sedge	Perennial	Native
SCRMAR	Scrophularia marilandica	Scrophularia marilandica	Carpenter's-Square	4	FACU	FACU	1	Forb	Perennial	Native
SCULAT	Scutellaria lateriflora	Scutellaria lateriflora	Mad Dog Skullcap	4	OBL	OBL	-2	Forb	Perennial	Native
EREHIE	Senecio hieraciifolius	Erechtites hieracifolia	American Burnweed	0	FAC	FACU	0	Forb	Annual	Native
SETFAB	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	FACU	1	Grass	Annual	Adventive
SETGLA	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	FAC	0	Grass	Annual	Adventive
SILLAT	Silene latifolia	LYCHNIS ALBA	White Campion	0	UPL	UPL	2	Forb	Annual	Adventive
SILINT	Silphium integrifolium	Silphium integrifolium var. deamii; Silphium integrifolium var. neglectum	Entire-Leaf Rosinweed	5	UPL	FAC	2	Forb	Perennial	Native
SISANG	Sisyrinchium angustifolium	Sisyrinchium angustifolium	Narrow-Leaf Blue-Eyed-Grass	5	FAC	FAC	0	Forb	Perennial	Native
SOLCAR	Solanum carolinense	SOLANUM CAROLINENSE	Carolina Horse-Nettle	0	FACU	FACU	1	Forb	Perennial	Adventive
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SONARV	Sonchus arvensis	SONCHUS ARVENSIS	Field Sow-Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native

SPAPEC	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	FACW	-1	Grass	Perennial	Native
ASTSIM	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
ASTPIL	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	FACU	1	Forb	Perennial	Native
TAROFF	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
THADAS	Thalictrum dasycarpum	Thalictrum dasycarpum hypoglaucum	Purple Meadow-Rue	6	FACW	FACW	-1	Forb	Perennial	Native
RHURAD	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	FAC	0	Vine	Perennial	Native
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIPRA	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIREP	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
ULMAME	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
VERTHA	Verbascum thapsus	VERBASCUM THAPSUS	Woolly Mullein	0	UPL	UPL	2	Forb	Biennial	Adventive
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
VERALT	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	FACW	-1	Forb	Perennial	Native
VERANA	Veronica anagallis-aquatica	Veronica comosa; Veronica catenata var. glandulosa	Blue Water Speedwell	9	OBL	OBL	-2	Forb	Perennial	Native
VIBPRU	Viburnum prunifolium	Viburnum prunifolium	Smooth Blackhaw	5	FACU	FACU	1	Shrub	Perennial	Native
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
ZIZAUR	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	FAC	0	Forb	Perennial	Native

SITE: WCERT
LOCALE: 8A
BY: WS, WO, MO
DATE: 6/5/2019, 9/5/2019

CONSERVATISM- BASED METRICS	
MEAN C (NATIVE SPECIES)	2.89
MEAN C (ALL SPECIES)	2.25
MEAN C (NATIVE TREES)	2.90
MEAN C (NATIVE SHRUBS)	3.50
MEAN C (NATIVE HERBACEOUS)	2.85
FQAI (NATIVE SPECIES)	28.74
FQAI (ALL SPECIES)	25.38
ADJUSTED FQAI	25.51
% C VALUE 0	0.36
% C VALUE 1-3	0.32
% C VALUE 4-6	0.27
% C VALUE 7-10	0.05

ADDITIONAL METRICS	
SPECIES RICHNESS (ALL)	127
SPECIES RICHNESS (NATIVE)	99
% NON-NATIVE	0.22
WET INDICATOR (ALL)	-0.17
WET INDICATOR (NATIVE)	-0.39
% HYDROPHYTE (MIDWEST)	0.67
% NATIVE PERENNIAL	0.64
% NATIVE ANNUAL	0.13
% ANNUAL	0.16
% PERENNIAL	0.80

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ACENEG	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
ACESAI	Acer saccharinum	Acer saccharinum	Silver Maple	1	FACW	FACW	-1	Tree	Perennial	Native
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
AGRALB	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	FACW	-1	Grass	Perennial	Adventive
ALISUB	Alisma subcordatum	Alisma subcordatum	American Water-Plantain	3	OBL	OBL	-2	Forb	Perennial	Native
ALLCAN	Allium canadense	Allium canadense	Meadow Garlic	3	FACU	FACU	1	Forb	Perennial	Native
ACNALT	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	OBL	-2	Forb	Annual	Native
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
AMBTRI	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	FAC	0	Forb	Annual	Native
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
ARCMIN	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	FACU	1	Forb	Biennial	Adventive
ARTVUL	Artemisia vulgaris	ARTEMISIA VULGARIS	Common Mugwort	0	UPL	UPL	2	Forb	Perennial	Adventive
ASCSYR	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native

BIDCER	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	OBL	-2	Forb	Annual	Native
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
BIDCOR	Bidens trichosperma	Bidens coronata	Crowned Beggarticks	9	OBL	OBL	-2	Forb	Annual	Native
BRANIG	Brassica nigra	BRASSICA NIGRA	Black Mustard	0	UPL	UPL	2	Forb	Annual	Adventive
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
CONSEP	Calystegia sepium	Convolvulus sepium	Hedge False Bindweed	1	FAC	FAC	0	Forb	Perennial	Native
CXBLAN	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	FAC	0	Sedge	Perennial	Native
CXGRIS	Carex grisea	Carex grisea	Inflated Narrow-Leaf Sedge	3	FAC	FAC	0	Sedge	Perennial	Native
CXHYST	Carex hystericina	Carex hystericina	Porcupine Sedge	7	OBL	OBL	-2	Sedge	Perennial	Native
CXSTIP	Carex stipata	Carex stipata	Stalk-Grain Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
CELOCC	Celtis occidentalis	Celtis occidentalis	Common Hackberry	2	FAC	FAC	0	Tree	Perennial	Native
CICMAC	Cicuta maculata	Cicuta maculata	Spotted Water-Hemlock	6	OBL	OBL	-2	Forb	Perennial	Native
CINARU	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	FACW	-1	Grass	Perennial	Native
CIRARV	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
CORSTO	Cornus alba	Cornus stolonifera; Cornus baileyi; Cornus sericea	Red Osier	5	FACW	FACW	-1	Shrub	Perennial	Native
CORDRU	Cornus drummondii	Cornus drummondii	Rough-Leaf Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	FACU	1	Shrub	Perennial	Native
CRYCAN	Cryptotaenia canadensis	Cryptotaenia canadensis	Canadian Honewort	4	FAC	FAC	0	Forb	Perennial	Native
CYPESC	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	FACW	-1	Sedge	Perennial	Native
DACGLO	Dactylis glomerata	DACTYLIS GLOMERATA	Orchard Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
DESCAA	Desmodium canadense	Desmodium canadense	Showy Tick-Trefoil	4	FACU	FAC	1	Forb	Perennial	Native
DIOVIR	Diospyros virginiana	Diospyros virginiana	Common Persimmon	0	FAC	FAC	0	Tree	Perennial	Adventive
DIPLAC	Dipsacus laciniatus	DIPSACUS LACINIATUS	Cut-Leaf Teasel	0	UPL	FACU	2	Forb	Biennial	Adventive
ECHCRU	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	FAC	-1	Grass	Annual	Native
ELEERY	Eleocharis palustris	Eleocharis erythropoda; Eleocharis palustris major; Eleocharis smallii; Eleocharis xyridiformis; Eleocharis macrostachya	Common Spike-Rush	1	OBL	OBL	-2	Sedge	Perennial	Native
ELYVIL	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	FACU	1	Grass	Perennial	Native

ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
EUPSER	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	FAC	0	Forb	Perennial	Native
FALCIL	Fallopia cilinodis	Polygonum cilinode	Bristly Climbing Buckwheat	3	UPL	UPL	2	Vine	Perennial	Native
POLSCA	Fallopia scandens	Polygonum scandens; Fallopia cristata	Climbing Black-Bindweed	3	FAC	FAC	0	Vine	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
GALAPA	Galium aparine	Galium spurium	Sticky-Willy	0	FACU	FACU	1	Forb	Annual	Native
GEUALE	Geum aleppicum	Geum aleppicum strictum	Yellow Avens	3	FACW	FAC	-1	Forb	Perennial	Native
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
GLYSTR	Glyceria striata	Glyceria striata var. stricta	Fowl Manna Grass	4	OBL	OBL	-2	Grass	Perennial	Native
HACVIR	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	FACU	1	Forb	Perennial	Native
HELAUT	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	FACW	-1	Forb	Perennial	Native
HELTUB	Helianthus tuberosus	Helianthus tuberosus	Jerusalem-Artichoke	3	FACU	FACU	1	Forb	Perennial	Native
HERMAX	Heracleum maximum	Heracleum maximum	American Cow-Parsnip	5	FACW	FACW	-1	Forb	Perennial	Native
HESMAT	Hesperis matronalis	HESPERIS MATRONALIS	Mother-of-the-Evening	0	FACU	FACU	1	Forb	Perennial	Adventive
HIBMOS	Hibiscus moscheutos	Hibiscus palustris	Crimson-Eyed Rose-Mallow	7	OBL	OBL	-2	Forb	Perennial	Native
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
IMPPAL	Impatiens pallida	Impatiens pallida	Pale Touch-Me-Not	6	FACW	FACW	-1	Forb	Annual	Native
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
LACSER	Lactuca serriola	LACTUCA SERRIOLA	Prickly Lettuce	0	FACU	FACU	1	Forb	Biennial	Adventive
LEEORY	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	OBL	-2	Grass	Perennial	Native
LEOCAR	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	UPL	2	Forb	Perennial	Adventive
LINBEN	Lindera benzoin	Lindera benzoin	Northern Spicebush	5	FACW	FACW	-1	Shrub	Perennial	Native
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	FACW	-2	Forb	Perennial	Native
LONMAA	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	UPL	2	Shrub	Perennial	Adventive
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive

LYCVIR	Lycopus virginicus	Lycopus virginicus	Virginia Water-Horehound	7	OBL	OBL	-2	Forb	Perennial	Native
LYSNUM	Lysimachia nummularia	LYSIMACHIA NUMMULARIA	Creeping-Jenny	0	FACW	FACW	-1	Forb	Perennial	Adventive
LYTSAL	Lythrum salicaria	LYTHRUM SALICARIA	Purple Loosestrife	0	OBL	OBL	-2	Forb	Perennial	Adventive
MENARV	Mentha arvensis	Mentha arvensis villosa; Mentha arvensis subsp. parietariaefolia; Mentha canadensis	American Wild Mint	5	FACW	FACW	-1	Forb	Perennial	Native
MORALB	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
MUHMEX	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	FACW	-1	Grass	Perennial	Native
MUHSCH	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	FAC	0	Grass	Perennial	Native
OENBIE	Oenothera biennis	Oenothera biennis	King's-Cureall	0	FACU	FACU	1	Forb	Biennial	Native
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
PACGLA	Packera glabella	SENECIO GLABELLUS	Cress-Leaf Groundsel	0	FACW	FACW	-1	Forb	Annual	Adventive
PACPAU	Packera paupercula	Packera crawfordii; Packera paupercula var.savannarum	Balsam Groundsel	4	FAC	FAC	0	Forb	Perennial	Native
PANDIC	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	FACW	-1	Grass	Annual	Native
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
POLCOC	Persicaria amphibia	Polygonum coccineum; Polygonum amphibium stipulaceum	Water Smartweed	4	OBL	OBL	-2	Forb	Perennial	Native
POLHYD	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	OBL	-2	Forb	Annual	Native
POLPER	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	FAC	-1	Forb	Annual	Adventive
POLPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
POLVIR	Persicaria virginiana	Polygonum virginianum	Jumpseed	4	FAC	FAC	0	Forb	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	FACW	-1	Forb	Perennial	Native

PHYAME	Phytolacca americana	Phytolacca americana	American Pokeweed	0	FACU	FACU	1	Forb	Perennial	Native
PILPUM	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	FACW	-1	Forb	Annual	Native
QUEBIC	Quercus bicolor	Quercus bicolor	Swamp White Oak	5	FACW	FACW	-1	Tree	Perennial	Native
QUEMAC	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
RATPIN	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	UPL	2	Forb	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
RHUTYP	Rhus hirta	Rhus typhina	Staghorn Sumac	1	UPL	UPL	2	Tree	Perennial	Native
ROBPSE	Robinia pseudoacacia	ROBINIA PSEUDOACACIA	Black Locust	0	FACU	FACU	1	Tree	Perennial	Adventive
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
RUMALT	Rumex altissimus	Rumex altissimus	Pale Dock	1	FACW	FACW	-1	Forb	Perennial	Native
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SAMCAN	Sambucus nigra ssp. canadensis	Sambucus canadensis	Black Elder	4	FAC	FACW	-1	Shrub	Perennial	Native
SAUCER	Saururus cernuus	Saururus cernuus	Lizard's-Tail	7	OBL	OBL	-2	Forb	Perennial	Native
SCIFLU	Schoenoplectus fluviatilis	Scirpus fluviatilis; Bolboschoenus fluviatilis	River Club-Rush	4	OBL	OBL	-2	Sedge	Perennial	Native
SCIVAL	Schoenoplectus tabernaemontani	Scirpus validus creber	Soft-Stem Club-Rush	3	OBL	OBL	-2	Sedge	Perennial	Native
SETFAB	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	FACU	1	Grass	Annual	Adventive
SILPER	Silphium perfoliatum	Silphium perfoliatum	Cup-Plant	5	FACW	FACW	-1	Forb	Perennial	Native
SOLDUL	Solanum dulcamara	SOLANUM DULCAMARA	Climbing Nightshade	0	FAC	FAC	0	Vine	Perennial	Adventive
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SPHINT	Sphenopholis intermedia	Sphenopholis intermedia	Slender Wedgescale	3	FAC	FAC	0	Grass	Perennial	Native
ASTSAGD	Symphyotrichum drummondii	Aster sagittifolius drummondii	Drummond’s Aster	3	UPL	UPL	2	Forb	Perennial	Native
SYMLAN	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
ASTPIL	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	FACU	1	Forb	Perennial	Native
TEUCAN	Teucrium canadense	Teucrium canadense	American Germander	3	FACW	FACW	-1	Forb	Perennial	Native
THAREV	Thalictrum revolutum	Thalictrum revolutum	Waxy-Leaf Meadow-Rue	6	FAC	FAC	0	Forb	Perennial	Native
TILAME	Tilia americana	Tilia americana	American Basswood	5	FACU	FACU	1	Tree	Perennial	Native
ULMAME	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native

ULMPUM	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	FACU	2	Tree	Perennial	Adventive
URTDIO	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	FAC	-1	Forb	Perennial	Native
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
VERFAS	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	FACW	-1	Forb	Perennial	Native
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
XANSTR	Xanthium strumarium	Xanthium strumarium var. canadense; Xanthium strumarium var. glabratum	Rough Cockleburr	0	FAC	FAC	0	Forb	Annual	Native

SITE: WCERT
LOCALE: 8B
BY: WS, MO, WO, KC
DATE: 6/6/2019 9/4/2019

CONSERVATISM- BASED METRICS

MEAN C (NATIVE SPECIES)	3.70
MEAN C (ALL SPECIES)	2.93
MEAN C (NATIVE TREES)	4.12
MEAN C (NATIVE SHRUBS)	3.38
MEAN C (NATIVE HERBACEOUS)	3.67
FQAI (NATIVE SPECIES)	55.10
FQAI (ALL SPECIES)	49.06
ADJUSTED FQAI	32.93
% C VALUE 0	0.31
% C VALUE 1-3	0.24
% C VALUE 4-6	0.35
% C VALUE 7-10	0.10

ADDITIONAL METRICS

SPECIES RICHNESS (ALL)	280
SPECIES RICHNESS (NATIVE)	222
% NON-NATIVE	0.21
WET INDICATOR (ALL)	0.11
WET INDICATOR (NATIVE)	-0.06
% HYDROPHYTE (MIDWEST)	0.56
% NATIVE PERENNIAL	0.69
% NATIVE ANNUAL	0.09
% ANNUAL	0.11
% PERENNIAL	0.85

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ACARHO	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	FACU	1	Forb	Annual	Native
ACENEG	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
ACESAI	Acer saccharinum	Acer saccharinum	Silver Maple	1	FACW	FACW	-1	Tree	Perennial	Native
ACHMIL	Achillea millefolium	ACHILLEA MILLEFOLIUM	Common Yarrow	0	FACU	FACU	1	Forb	Perennial	Adventive
AESGLA	Aesculus glabra	Aesculus glabra	Ohio Buckeye	7	FAC	FAC	0	Tree	Perennial	Native
AGATEN	Agalinis tenuifolia	Agalinis tenuifolia	Slender-Leaf False Foxglove	3	FACW	FACW	-1	Forb	Annual	Native
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
AGRGRY	Agrimonia gryposepala	Agrimonia gryposepala	Tall Hairy Grooveburr	2	FACU	FACU	1	Forb	Perennial	Native
AGRPAR	Agrimonia parviflora	Agrimonia parviflora	Harvestlice	4	FACW	FAC	-1	Forb	Perennial	Native
AGRALB	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	FACW	-1	Grass	Perennial	Adventive
ALLPET	Alliaria petiolata	ALLIARIA PETIOLATA	Garlic-Mustard	0	FAC	FACU	0	Forb	Biennial	Adventive
ALLCAN	Allium canadense	Allium canadense	Meadow Garlic	3	FACU	FACU	1	Forb	Perennial	Native
ALLCER	Allium cernuum	Allium cernuum	Nodding Onion	7	FACU	FACU	1	Forb	Perennial	Native

ACNALT	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	OBL	-2	Forb	Annual	Native
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	FACU	1	Forb	Annual	Native
AMBTRI	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	FAC	0	Forb	Annual	Native
AMOFRU	Amorpha fruticosa	Amorpha fruticosa	False Indigo-Bush	5	FACW	FACW	-1	Shrub	Perennial	Native
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	FACU	0	Grass	Perennial	Native
ANECAN	Anemone canadensis	Anemone canadensis	Round-Leaf Thimbleweed	4	FACW	FACW	-1	Forb	Perennial	Native
ANEVIR	Anemone virginiana	Anemone virginiana	Tall Thimbleweed	5	FACU	FACU	1	Forb	Perennial	Native
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
ARTVUL	Artemisia vulgaris	ARTEMISIA VULGARIS	Common Mugwort	0	UPL	UPL	2	Forb	Perennial	Adventive
ASCINC	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	OBL	-2	Forb	Perennial	Native
ASCSYR	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
ASCVER	Asclepias verticillata	Asclepias verticillata	Whorled Milkweed	1	FACU	UPL	1	Forb	Perennial	Native
ASITRI	Asimina triloba	Asimina triloba	Common Pawpaw	10	FAC	FAC	0	Tree	Perennial	Native
BAPALB	Baptisia alba var. macrophylla	Baptisia leucantha; Baptisia lactea	White Wild Indigo	8	FACU	FACU	1	Forb	Perennial	Native
BARVUL	Barbarea vulgaris	BARBAREA VULGARIS	Garden Yellow-Rocket	0	FAC	FAC	0	Forb	Biennial	Adventive
BETNIG	Betula nigra	Betula nigra	River Birch	5	FACW	FACW	-1	Tree	Perennial	Native
BIDCER	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	OBL	-2	Forb	Annual	Native
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
BLEHIR	Blephilia hirsuta	Blephilia hirsuta	Hairy Pagoda-Plant	5	FACU	FACU	1	Forb	Perennial	Native
BOECYL	Boehmeria cylindrica	Boehmeria cylindrica drummondiana	Small-Spike False Nettle	5	OBL	OBL	-2	Forb	Perennial	Native
BOLAST	Boltonia asteroides	Boltonia latisquama recognita	White Doll's Daisy	8	OBL	FACW	-2	Forb	Perennial	Native
BOUCUR	Bouteloua curtipendula	Bouteloua curtipendula	Side-Oats Grama	8	UPL	UPL	2	Grass	Perennial	Native
BRANIG	Brassica nigra	BRASSICA NIGRA	Black Mustard	0	UPL	UPL	2	Forb	Annual	Adventive
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	UPL	1	Grass	Perennial	Adventive
BROTEC	Bromus tectorum	BROMUS TECTORUM	Downy Chess	0	UPL	UPL	2	Grass	Annual	Adventive
CALCAN	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	OBL	-2	Grass	Perennial	Native
CONSEP	Calystegia sepium	Convolvulus sepium	Hedge False Bindweed	1	FAC	FAC	0	Forb	Perennial	Native
CAMAME	Campanulastrum americanum	Campanula americana	American-Bellflower	4	FAC	FAC	0	Forb	Annual	Native
CXBEBB	Carex bebbii	Carex bebbii	Bebb's Sedge	8	OBL	OBL	-2	Sedge	Perennial	Native
CXBLAN	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	FAC	0	Sedge	Perennial	Native

CXBREV	Carex brevior	Carex brevior	Short-Beak Sedge	3	FAC	FAC	0	Sedge	Perennial	Native
CXCRIS	Carex cristatella	Carex cristatella	Crested Sedge	4	FACW	FACW	-1	Sedge	Perennial	Native
CXFRAN	Carex frankii	Carex frankii	Frank's Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
CXGRAN	Carex granularis	Carex granularis	Limestone-Meadow Sedge	3	FACW	FACW	-1	Sedge	Perennial	Native
CXGRIS	Carex grisea	Carex grisea	Inflated Narrow-Leaf Sedge	3	FAC	FAC	0	Sedge	Perennial	Native
CXHYST	Carex hystericina	Carex hystericina	Porcupine Sedge	7	OBL	OBL	-2	Sedge	Perennial	Native
CXJAME	Carex jamesii	Carex jamesii	James' Sedge	5	UPL	UPL	2	Sedge	Perennial	Native
CXLACU	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	OBL	-2	Sedge	Perennial	Native
CXNORM	Carex normalis	Carex normalis	Greater Straw Sedge	5	FACW	FACW	-1	Sedge	Perennial	Native
CXRADI	Carex radiata	Carex radiata	Eastern Star Sedge	5	UPL	FAC	2	Sedge	Perennial	Native
CXSTIP	Carex stipata	Carex stipata	Stalk-Grain Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
CXTRIB	Carex tribuloides	Carex tribuloides	Blunt Broom Sedge	7	OBL	FACW	-2	Sedge	Perennial	Native
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
CARCAR	Carpinus caroliniana ssp. virginiana	Carpinus caroliniana virginiana	American Hornbeam	8	FAC	FAC	0	Tree	Perennial	Native
CARCOR	Carya cordiformis	Carya cordiformis	Bitter-Nut Hickory	5	FACU	FAC	1	Tree	Perennial	Native
CAROVT	Carya ovata	Carya ovata	Shag-Bark Hickory	5	FACU	FACU	1	Tree	Perennial	Native
CELOCC	Celtis occidentalis	Celtis occidentalis	Common Hackberry	2	FAC	FAC	0	Tree	Perennial	Native
CEPOCC	Cephalanthus occidentalis	Cephalanthus occidentalis	Common Buttonbush	5	OBL	OBL	-2	Shrub	Perennial	Native
CERCAN	Cercis canadensis	Cercis canadensis	Redbud	5	FACU	FACU	1	Tree	Perennial	Native
CICMAC	Cicuta maculata	Cicuta maculata	Spotted Water-Hemlock	6	OBL	OBL	-2	Forb	Perennial	Native
CINARU	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	FACW	-1	Grass	Perennial	Native
CIRCAN	Circaea canadensis	Circaea lutetiana canadensis	Broad-Leaf Enchanter's-Nightshade	3	FACU	FACU	1	Forb	Perennial	Native
CIRARV	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
CIRDIS	Cirsium discolor	Cirsium discolor	Field Thistle	3	FACU	UPL	1	Forb	Biennial	Native
CIRVUL	Cirsium vulgare	CIRSIUM VULGARE	Bull Thistle	0	FACU	FACU	1	Forb	Biennial	Adventive
CORTRI	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	FAC	0	Forb	Perennial	Native
CORALB	Cornus alba	Cornus stolonifera; Cornus baileyi; Cornus sericea	Red Osier	5	FACW	FACW	-1	Shrub	Perennial	Native
COROBL	Cornus obliqua	Cornus obliqua	Pale Dogwood	5	FACW	FACW	-1	Shrub	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	FACU	1	Shrub	Perennial	Native
CRACRU	Crataegus crus-galli	Crataegus crus-galli; Crataegus acutifolia	Cock-Spur Hawthorn	3	FAC	FAC	0	Tree	Perennial	Native
CRAMOL	Crataegus mollis	Crataegus mollis	Downy Hawthorn	2	FAC	FAC	0	Tree	Perennial	Native
CRYCAN	Cryptotaenia canadensis	Cryptotaenia canadensis	Canadian Honewort	4	FAC	FAC	0	Forb	Perennial	Native

CYPESC	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	FACW	-1	Sedge	Perennial	Native
DASMAC	Dasistoma macrophylla	Seymeria macrophylla	Mullein-Foxglove	8	FACU	FACU	1	Forb	Perennial	Native
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
DESCAA	Desmodium canadense	Desmodium canadense	Showy Tick-Trefoil	4	FACU	FAC	1	Forb	Perennial	Native
DICACU	Dichanthelium acuminatum	Panicum implicatum; Panicum auburne; Panicum lindheimeri; Panicum praecocius; Panicum subvillosum; Panicum villosissimum; Panicum villosissimum pseudopubescens	Tapered Rosette Grass	4	FAC	FAC	0	Grass	Perennial	Native
ECHPUR	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	UPL	2	Forb	Perennial	Native
ECHCRU	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	FAC	-1	Grass	Annual	Native
ELAANG	Elaeagnus angustifolia	ELAEAGNUS ANGUSTIFOLIA	Russian-Olive	0	FACU	FACU	1	Shrub	Perennial	Adventive
ELAUMB	Elaeagnus umbellata	ELAEAGNUS UMBELLATA	Autumn-Olive	0	UPL	UPL	2	Shrub	Perennial	Adventive
ELEERY	Eleocharis palustris	Eleocharis erythropoda; Eleocharis palustris major; Eleocharis smallii; Eleocharis xyridiformis; Eleocharis macrostachya	Common Spike-Rush	1	OBL	OBL	-2	Sedge	Perennial	Native
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	FACU	1	Grass	Perennial	Native
ELYHYS	Elymus hystrix	Hystrix patula	Eastern Bottle-Brush Grass	5	FACU	FACU	1	Grass	Perennial	Native
AGRREP	Elymus repens	AGROPYRON REPENS; Elytrigia repens	Creeping Wild Rye	0	FACU	FACU	1	Grass	Perennial	Adventive
ELYVIL	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	FACU	1	Grass	Perennial	Native
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	FACW	-1	Grass	Perennial	Native
EPICOL	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	OBL	-2	Forb	Perennial	Native
ERAHYP	Eragrostis hypnoides	Eragrostis hypnoides	Teal Love Grass	5	OBL	OBL	-2	Grass	Annual	Native
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
CONCAN	Erigeron canadensis	Conyza canadensis	Canadian Horseweed	0	FACU	FACU	1	Forb	Annual	Native
ERIPHI	Erigeron philadelphicus	Erigeron philadelphicus	Philadelphia Fleabane	4	FACW	FAC	-1	Forb	Perennial	Native
ERIVIL	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	UPL	2	Grass	Annual	Adventive
ERIVIG	Eriophorum virginicum	Eriophorum virginicum	Tawny Cotton-Grass	10	OBL	OBL	-2	Sedge	Perennial	Native

ERYYUC	Eryngium yuccifolium	Eryngium yuccifolium	Button Eryngo	9	FAC	FAC	0	Forb	Perennial	Native
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	UPL	2	Forb	Perennial	Native
EUPSER	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	FAC	0	Forb	Perennial	Native
EUPDEN	Euphorbia dentata	EUPHORBIA DENTATA	Toothed Spurge	0	UPL	UPL	2	Forb	Annual	Adventive
EUTGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	FAC	-1	Forb	Perennial	Native
EUPMAC	Eutrochium maculatum	Eupatorium maculatum	Spotted Trumpetweed	5	OBL	OBL	-2	Forb	Perennial	Native
FESOBT	Festuca subverticillata	Festuca obtusa	Nodding Fescue	5	FACU	FACU	1	Grass	Perennial	Native
FRAVIR	Fragaria virginiana	Fragaria virginiana	Virginia Strawberry	0	FACU	FACU	1	Forb	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
GALTRD	Galium trifidum	Galium trifidum	Three-Petal Bedstraw	9	FACW	FACW	-1	Forb	Perennial	Native
GALTRL	Galium triflorum	Galium triflorum	Fragrant Bedstraw	5	FACU	FACU	1	Forb	Perennial	Native
GEUALE	Geum aleppicum	Geum aleppicum strictum	Yellow Avens	3	FACW	FAC	-1	Forb	Perennial	Native
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive
GLETRI	Gleditsia triacanthos	Gleditsia triacanthos	Honey-Locust	1	FACU	FAC	1	Tree	Perennial	Native
GLYSTR	Glyceria striata	Glyceria striata var. stricta	Fowl Manna Grass	4	OBL	OBL	-2	Grass	Perennial	Native
HELAUT	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	FACW	-1	Forb	Perennial	Native
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
HELTUB	Helianthus tuberosus	Helianthus tuberosus	Jerusalem-Artichoke	3	FACU	FACU	1	Forb	Perennial	Native
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	FACU	1	Forb	Perennial	Native
HESMAT	Hesperis matronalis	HESPERIS MATRONALIS	Mother-of-the-Evening	0	FACU	FACU	1	Forb	Perennial	Adventive
HIECAE	Hieracium caespitosum	HIERACIUM CAESPITOSUM	Field Hawkweed	0	UPL	UPL	2	Forb	Perennial	Adventive
HORJUB	Hordeum jubatum	HORDEUM JUBATUM	Fox-Tail Barley	0	FAC	FAC	0	Grass	Perennial	Native
HYDVIR	Hydrophyllum virginianum	Hydrophyllum virginianum	Shawnee-Salad	5	FAC	FAC	0	Forb	Perennial	Native
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
IRIPSE	Iris pseudacorus	IRIS PSEUDACORUS	Pale-Yellow Iris	0	OBL	OBL	-2	Forb	Perennial	Adventive
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	FACW	-1	Forb	Perennial	Native

JUNEFF	Juncus effusus ssp. solutus	Juncus effusus	Lamp Rush	5	OBL	OBL	-2	Forb	Perennial	Native
JUNINT	Juncus interior	Juncus interior	Inland Rush	4	FAC	FAC	0	Forb	Perennial	Native
JUNTEN	Juncus tenuis	Juncus tenuis	Lesser Poverty Rush	0	FAC	FAC	0	Forb	Perennial	Native
JUNTOR	Juncus torreyi	Juncus torreyi	Torrey's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
JUNVIR	Juniperus virginiana	Juniperus virginiana crebra	Eastern Red-Cedar	0	FACU	FACU	1	Tree	Perennial	Native
LACCAN	Lactuca canadensis	Lactuca canadensis	Canadian Blue Lettuce	1	FACU	FACU	1	Forb	Biennial	Native
LACFLO	Lactuca floridana	Lactuca floridana	Woodland Lettuce	8	FACU	FACU	1	Forb	Biennial	Native
LEEORY	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	OBL	-2	Grass	Perennial	Native
LEEVIR	Leersia virginica	Leersia virginica	White Grass	5	FACW	FACW	-1	Grass	Perennial	Native
LEOCAR	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	UPL	2	Forb	Perennial	Adventive
CHRLEU	Leucanthemum vulgare	CHRYSANTHEMUM LEUCANTHEMUM PINNATIFIDUM; LEUCANTHEMUM VULGARE VAR. PINNATIFIDUM	Ox-Eye Daisy	0	UPL	UPL	2	Forb	Perennial	Adventive
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	FACW	-2	Forb	Perennial	Native
LOBSPI	Lobelia spicata	Lobelia spicata	Pale-Spike Lobelia	4	FAC	FAC	0	Forb	Perennial	Native
LONMAA	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	UPL	2	Shrub	Perennial	Adventive
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
LOTCOR	Lotus corniculatus	LOTUS CORNICULATUS	Garden Bird's-Foot-Trefoil	0	FACU	FACU	1	Forb	Perennial	Adventive
LYCAME	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	OBL	-2	Forb	Perennial	Native
LYSNUM	Lysimachia nummularia	LYSIMACHIA NUMMULARIA	Creeping-Jenny	0	FACW	FACW	-1	Forb	Perennial	Adventive
MALIOE	Malus ioensis	Malus ioensis	Iowa Crab Apple	4	UPL	UPL	2	Tree	Perennial	Native
MEDLUP	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	FACU	1	Forb	Annual	Adventive
MELALB	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	UPL	2	Forb	Biennial	Adventive
MELLOF	Melilotus officinalis	MELILOTUS ALBA	Yellow Sweet-Clover	0	FACU	FACU	1	Forb	Biennial	Adventive
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	FACU	1	Forb	Perennial	Native
MORALB	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
MORRUB	Morus rubra	Morus rubra	Red Mulberry	10	FACU	FACU	1	Tree	Perennial	Native
MUHMEX	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	FACW	-1	Grass	Perennial	Native
MUHSCH	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	FAC	0	Grass	Perennial	Native
OENBIE	Oenothera biennis	Oenothera biennis	King's-Cureall	0	FACU	FACU	1	Forb	Biennial	Native

OSTVIR	Ostrya virginiana	Ostrya virginiana	Eastern Hop-Hornbeam	5	FACU	FACU	1	Tree	Perennial	Native
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
PACPAU	Packera paupercula	Packera crawfordii; Packera paupercula var.savannarum	Balsam Groundsel	4	FAC	FAC	0	Forb	Perennial	Native
PANCAP	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	FAC	0	Grass	Annual	Native
PANDIC	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	FACW	-1	Grass	Annual	Native
PANVIR	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	FAC	0	Grass	Perennial	Native
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
PENDIG	Penstemon digitalis	Penstemon digitalis	Foxglove Beardtongue	4	FAC	FAC	0	Forb	Perennial	Native
POLHYD	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	OBL	-2	Forb	Annual	Native
POLPER	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	FAC	-1	Forb	Annual	Adventive
POLPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
POLVIR	Persicaria virginiana	Polygonum virginianum	Jumpseed	4	FAC	FAC	0	Forb	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHRAUSV	Phragmites australis cult. variegatus	PHRAGMITES AUSTRALIS CULT. VARIEGATUS	Striped Common Reed	0	UPL	UPL	2	Grass	Perennial	Adventive
PHRAUSU	Phragmites australis ssp. australis	PHRAGMITES AUSTRALIS	Common Reed	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	FACW	-1	Forb	Perennial	Native
PILPUM	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	FACW	-1	Forb	Annual	Native
PLAMAJ	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	FACU	0	Forb	Perennial	Adventive
PLARUG	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	FAC	0	Forb	Annual	Native
PLAOCC	Platanus occidentalis	Platanus occidentalis	American Sycamore	5	FACW	FACW	-1	Tree	Perennial	Native
POACOM	Poa compressa	POA COMPRESSA	Flat-Stem Blue Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
POLVER	Polygala verticillata	Polygala verticillata	Whorled Milkwort	7	UPL	UPL	2	Forb	Annual	Native
POLBIF	Polygonatum biflorum	Polygonatum canaliculatum	King Solomon's-Seal	4	FACU	FACU	1	Forb	Perennial	Native
POLVIG	Polypodium virginianum	Polypodium virginianum	Common Polypody	10	UPL	UPL	2	Fern	Perennial	Native
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
POTNOR	Potentilla norvegica	Potentilla norvegica	Norwegian Cinquefoil	0	FAC	FAC	0	Forb	Annual	Native

PRUVULL	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	FAC	0	Forb	Perennial	Native
PRUVUV	Prunella vulgaris ssp. vulgaris	PRUNELLA VULGARIS	Common Selfheal	0	FAC	FAC	0	Forb	Perennial	Adventive
PRUAME	Prunus americana	Prunus americana	American Plum	3	UPL	UPL	2	Tree	Perennial	Native
PRUSER	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	FACU	1	Shrub	Perennial	Native
PTETRI	Ptelea trifoliata	Ptelea trifoliata	Common Hoptree	4	FACU	FACU	1	Shrub	Perennial	Native
PYCTEN	Pycnanthemum tenuifolium	Pycnanthemum tenuifolium	Narrow-Leaf Mountain-Mint	7	FAC	FAC	0	Forb	Perennial	Native
PYCVIR	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	FACW	-1	Forb	Perennial	Native
PYRCAL	Pyrus calleryana	PYRUS CALLERYANA	Ornamental Pear	0	UPL	UPL	2	Tree	Perennial	Adventive
QUEALB	Quercus alba	Quercus alba	Northern White Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEBIC	Quercus bicolor	Quercus bicolor	Swamp White Oak	5	FACW	FACW	-1	Tree	Perennial	Native
QUECOC	Quercus coccinea	Quercus coccinea	Scarlet Oak	5	UPL	UPL	2	Tree	Perennial	Native
QUEELL	Quercus ellipsoidalis	Quercus ellipsoidalis	Hill’s Oak	4	UPL	UPL	2	Tree	Perennial	Native
QUEMAC	Quercus macrocarpa	Quercus macrocarpa	Burr Oak	5	FAC	FACU	0	Tree	Perennial	Native
QUERUB	Quercus rubra	Quercus rubra	Northern Red Oak	5	FACU	FACU	1	Tree	Perennial	Native
QUEVEL	Quercus velutina	Quercus velutina	Black Oak	5	UPL	UPL	2	Tree	Perennial	Native
RANHIS	Ranunculus hispidus	Ranunculus hispidus	Bristly Buttercup	8	FAC	FAC	0	Forb	Perennial	Native
RATPIN	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	UPL	2	Forb	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
RHUGLA	Rhus glabra	Rhus glabra	Smooth Sumac	1	UPL	UPL	2	Shrub	Perennial	Native
RHUTYP	Rhus hirta	Rhus typhina	Staghorn Sumac	1	UPL	UPL	2	Tree	Perennial	Native
RIBAME	Ribes americanum	Ribes americanum	Wild Black Currant	4	FACW	FACW	-1	Shrub	Perennial	Native
RIBMIS	Ribes missouriense	Ribes missouriense	Missouri Gooseberry	2	UPL	UPL	2	Shrub	Perennial	Native
ROBPSE	Robinia pseudoacacia	ROBINIA PSEUDOACACIA	Black Locust	0	FACU	FACU	1	Tree	Perennial	Adventive
RORSYL	Rorippa sylvestris	RORIPPA SYLVESTRIS	Creeping Yellowcress	0	OBL	OBL	-2	Forb	Perennial	Adventive
ROSMUL	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	FACU	1	Shrub	Perennial	Adventive
ROSSET	Rosa setigera	Rosa setigera var. tomentosa	Climbing Rose	5	FACU	FACU	1	Shrub	Perennial	Native
RUBALL	Rubus allegheniensis	Rubus allegheniensis	Allegheny Blackberry	3	FACU	FACU	1	Shrub	Perennial	Native
RUBOCC	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	UPL	2	Shrub	Perennial	Native
RUDHIR	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	FACU	1	Forb	Perennial	Native
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	FACW	-1	Forb	Perennial	Native
RUDSUB	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	FACU	1	Forb	Perennial	Native
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	FACU	1	Forb	Annual	Native
RUMALT	Rumex altissimus	Rumex altissimus	Pale Dock	1	FACW	FACW	-1	Forb	Perennial	Native

RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SALDIS	Salix discolor	Salix discolor	Pussy Willow	3	FACW	FACW	-1	Shrub	Perennial	Native
SALERI	Salix eriocephala	Salix eriocephala	Missouri Willow	5	FACW	FACW	-1	Shrub	Perennial	Native
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SALNIG	Salix nigra	Salix nigra	Black Willow	5	OBL	OBL	-2	Tree	Perennial	Native
SAMCAN	Sambucus nigra ssp. canadensis	Sambucus canadensis	Black Elder	4	FAC	FACW	-1	Shrub	Perennial	Native
SANODO	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	FAC	0	Forb	Perennial	Native
FESELA	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	FACU	1	Grass	Perennial	Adventive
ANDSCO	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	FACU	1	Grass	Perennial	Native
SCIFLU	Schoenoplectus fluviatilis	Scirpus fluviatilis; Bolboschoenus fluviatilis	River Club-Rush	4	OBL	OBL	-2	Sedge	Perennial	Native
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	OBL	-2	Sedge	Perennial	Native
SCIPEN	Scirpus pendulus	Scirpus pendulus	Rufous Bulrush	2	OBL	OBL	-2	Sedge	Perennial	Native
SCULAT	Scutellaria lateriflora	Scutellaria lateriflora	Mad Dog Skullcap	4	OBL	OBL	-2	Forb	Perennial	Native
CORVAR	Securigera varia	CORONILLA VARIA	Crown Vetch	0	UPL	UPL	2	Forb	Perennial	Adventive
EREHIE	Senecio hieraciifolius	Erechtites hieracifolia	American Burnweed	0	FAC	FACU	0	Forb	Annual	Native
SETFAB	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	FACU	1	Grass	Annual	Adventive
SETGLA	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	FAC	0	Grass	Annual	Adventive
SILINT	Silphium integrifolium	Silphium integrifolium var. deamii; Silphium integrifolium var. neglectum	Entire-Leaf Rosinweed	5	UPL	FAC	2	Forb	Perennial	Native
SILLAC	Silphium laciniatum	Silphium laciniatum	Compass-Plant	5	UPL	UPL	2	Forb	Perennial	Native
SILPER	Silphium perfoliatum	Silphium perfoliatum	Cup-Plant	5	FACW	FACW	-1	Forb	Perennial	Native
SILTER	Silphium terebinthinaceum	Silphium terebinthinaceum	Prairie Dock	5	FAC	FAC	0	Forb	Perennial	Native
BRAKAB	Sinapis arvensis	Brassica kaber	Charlock	0	UPL	UPL	2	Forb	Annual	Native
SISANG	Sisyrinchium angustifolium	Sisyrinchium angustifolium	Narrow-Leaf Blue-Eyed-Grass	5	FAC	FAC	0	Forb	Perennial	Native
SIUSUA	Sium suave	Sium suave	Hemlock Water-Parsnip	7	OBL	OBL	-2	Forb	Perennial	Native
SMILAS	Smilax lasioneuron	Smilax lasioneura	Common Carrion Flower	5	UPL	UPL	2	Vine	Perennial	Native
SOLCAR	Solanum carolinense	SOLANUM CAROLINENSE	Carolina Horse-Nettle	0	FACU	FACU	1	Forb	Perennial	Adventive
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native

SOLRIG	Solidago rigida	Oligoneuron rigidum	Hard-Leaf Flat-Top-Goldenrod	3	FACU	FACU	1	Forb	Perennial	Native
SONARV	Sonchus arvensis	SONCHUS ARVENSIS	Field Sow-Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	FACU	1	Grass	Perennial	Native
SPAEUR	Sparganium eurycarpum	Sparganium eurycarpum	Broad-Fruit Burr-Reed	5	OBL	OBL	-2	Forb	Perennial	Native
SPAPEC	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	FACW	-1	Grass	Perennial	Native
SPHINT	Sphenopholis intermedia	Sphenopholis intermedia	Slender Wedgescale	3	FAC	FAC	0	Grass	Perennial	Native
SPOASP	Sporobolus compositus	SPOROBOLUS ASPER	Head-Like Dropseed	0	UPL	UPL	2	Grass	Perennial	Adventive
SPOHET	Sporobolus heterolepis	Sporobolus heterolepis	Prairie Dropseed	10	FACU	FACU	1	Grass	Perennial	Native
SYMORB	Symphoricarpos orbiculatus	SYMPHORICARPOS ORBICULATUS	Coral-Berry	0	FACU	FACU	1	Shrub	Perennial	Adventive
ASTSAGD	Symphyotrichum drummondii	Aster sagittifolius drummondii	Drummond’s Aster	3	UPL	UPL	2	Forb	Perennial	Native
ASTLAE	Symphyotrichum laeve	Aster laevis	Smooth Blue American-Aster	9	FACU	FACU	1	Forb	Perennial	Native
SYMLAN	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
ASTNOV	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	FACW	-1	Forb	Perennial	Native
ASTPIL	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	FACU	1	Forb	Perennial	Native
TAROFF	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	FACU	1	Forb	Perennial	Adventive
TEUCAN	Teucrium canadense	Teucrium canadense	American Germander	3	FACW	FACW	-1	Forb	Perennial	Native
TILAME	Tilia americana	Tilia americana	American Basswood	5	FACU	FACU	1	Tree	Perennial	Native
RHURAD	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	FAC	0	Vine	Perennial	Native
TRAOHI	Tradescantia ohiensis	Tradescantia ohiensis	Bluejacket	3	FACU	FACU	1	Forb	Perennial	Native
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIPRA	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TRIREP	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TYPANG	Typha angustifolia	TYPHA ANGUSTIFOLIA	Narrow-Leaf Cat-Tail	0	OBL	OBL	-2	Forb	Perennial	Adventive
ULMAME	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
URTDIO	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	FAC	-1	Forb	Perennial	Native
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native

VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
ACTALT	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	FACW	-1	Forb	Perennial	Native
VERFAS	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	FACW	-1	Forb	Perennial	Native
VIBDEN	Viburnum dentatum	VIBURNUM DENTATUM VAR. SCABRELLUM	Southern Arrow-Wood	0	FAC	FAC	0	Shrub	Perennial	Adventive
VIBLEN	Viburnum lentago	Viburnum lentago	Nanny-Berry	4	FAC	FAC	0	Shrub	Perennial	Native
VIBPRU	Viburnum prunifolium	Viburnum prunifolium	Smooth Blackhaw	5	FACU	FACU	1	Shrub	Perennial	Native
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	FAC	0	Forb	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
XANSTR	Xanthium strumarium	Xanthium strumarium var. canadense; Xanthium strumarium var. glabratum	Rough Cockleburr	0	FAC	FAC	0	Forb	Annual	Native
XANAME	Zanthoxylum americanum	Xanthoxylum americanum	Toothachetree	3	FACU	FACU	1	Shrub	Perennial	Native
ZIZAUR	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	FAC	0	Forb	Perennial	Native

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix C

Vascular Plant Transect Data

SITE: WCERT
LOCALE: 5D Upland Savanna
BY: WS, WO, MO
DATE: 9/5/2019

TRANSECT QUADRAT

QUAD		MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
	T02-01	2.55	2.15	8.44	7.77	0.18	0.38	11	13
	T02-02	2.6	1.86	5.81	4.91	0.6	0.57	5	7
	T02-03	2.86	2.22	7.56	6.67	0.29	0.56	7	9
	T02-04	2.67	2	6.53	5.66	0	0.13	6	8
	T02-05	4.5	3	9	7.35	0.25	0.67	4	6
	T02-06	2	1.67	4.47	4.08	0.4	0.33	5	6
	T02-07		0	0	0		1		2
	T02-08	4.25	2.43	8.5	6.43	0.25	0.57	4	7
	T02-09	1.67	1.43	4.08	3.78	0.5	0.71	6	7
	T02-10	5	1.67	7.07	4.08	0.5	0.83	2	6
	T02-11	2.67	1.33	6.53	4.62	0.67	0.75	6	12
	T02-12	2.83	1.7	6.94	5.38	0.5	0.8	6	10
	T02-13	2.2	1.1	4.92	3.48	0.8	1	5	10
AVG		2.75	1.74	6.14	4.94	0.38	0.64	5.15	7.92
STD		1.29	0.72	2.4	2.02	0.25	0.26	2.58	2.9

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	25	65.79%	ADVENTIVE	13	34.21%
Tree	0	0.00%	Tree	0	0.00%
Shrub	0	0.00%	Shrub	0	0.00%
Vine	0	0.00%	Vine	0	0.00%
Forb	18	47.37%	Forb	7	18.42%
Grass	7	18.42%	Grass	6	15.79%
Sedge	0	0.00%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Forb	43	342	41.7	34.6	38.2
N Grass	24	357	23.3	36.1	29.7
A Forb	12	56	11.7	5.7	8.7
A Grass	24	234	23.3	23.7	23.5

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Eriochloa villosa	0	UPL	11	180	10.7	18.2	14.4
Sorghastrum nutans	5	FACU	5	120	4.9	12.1	8.5
Elymus virginicus	3	FACW	8	114	7.8	11.5	9.6
Heliopsis helianthoides	7	FACU	5	96	4.9	9.7	7.3
Rudbeckia triloba	1	FACU	5	55	4.9	5.6	5.2
Andropogon gerardii	5	FAC	3	54	2.9	5.5	4.2
Ageratina altissima	3	FACU	2	52	1.9	5.3	3.6
Solidago canadensis	1	FACU	5	36	4.9	3.6	4.2
Panicum virgatum	3	FAC	3	36	2.9	3.6	3.3
Setaria pumila	0	FAC	5	28	4.9	2.8	3.8
Schizachyrium scoparium	5	FACU	2	26	1.9	2.6	2.3
Chamaesyce maculata	0	FACU	1	25	1	2.5	1.7
Trifolium hybridum	0	FACU	2	22	1.9	2.2	2.1
Rudbeckia hirta	1	FACU	3	19	2.9	1.9	2.4
Poa pratensis	0	FAC	4	14	3.9	1.4	2.6
Daucus carota	0	UPL	2	12	1.9	1.2	1.6
Lobelia siphilitica	4	OBL	1	8	1	0.8	0.9
Symphyotrichum lateriflorum	4	FACW	2	7	1.9	0.7	1.3
Viola sororia	3	FAC	2	7	1.9	0.7	1.3
Erigeron annuus	0	FACU	2	6	1.9	0.6	1.3
Glechoma hederacea	0	FACU	2	6	1.9	0.6	1.3
Taraxacum officinale	0	FACU	3	6	2.9	0.6	1.8
Echinacea purpurea	10	UPL	1	6	1	0.6	0.8
Ambrosia artemisiifolia	0	FACU	3	5	2.9	0.5	1.7
Phalaris arundinacea	0	FACW	1	5	1	0.5	0.7
Panicum capillare	0	FAC	2	5	1.9	0.5	1.2
Eupatorium altissimum	0	UPL	1	5	1	0.5	0.7
Plantago lanceolata	0	FACU	1	5	1	0.5	0.7
Geum canadense	1	FAC	3	4	2.9	0.4	1.7
Oxalis stricta	0	FACU	3	4	2.9	0.4	1.7

Digitaria sanguinalis	0	FACU	1	4	1	0.4	0.7
Bromus arvensis	0	FACU	2	3	1.9	0.3	1.1
Helianthus grosseserratus	4	FACW	2	3	1.9	0.3	1.1
Medicago lupulina	0	FACU	1	3	1	0.3	0.6
Verbena hastata	4	FACW	1	2	1	0.2	0.6
Elymus canadensis	4	FACU	1	2	1	0.2	0.6
Abutilon theophrasti	0	FACU	1	2	1	0.2	0.6
Verbena urticifolia	2	FAC	1	2	1	0.2	0.6
			103	989			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
ABUTHE	Abutilon theophrasti	ABUTILON THEOPHRASTI	Velvetleaf	0	FACU	1
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	1
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	1
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
BROJAP	Bromus arvensis	BROMUS JAPONICUS	Field Brome	0	FACU	1
EUPSUP	Chamaesyce maculata	Euphorbia maculata; Euphorbia supina	Spotted Sandmat	0	FACU	1
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	2
DIGSAN	Digitaria sanguinalis	DIGITARIA SANGUINALIS	Hairy Crab Grass	0	FACU	1
ECHPUR	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	2
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	1
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	1
ERIVIL	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	2
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	2
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	0
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	-1
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	1
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	-2
MEDLUP	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	1
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
PANCAP	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	0
PANVIR	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	0
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
PLALAN	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	1

POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	0
RUDHIR	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	1
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
ANDSCO	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	1
SETGLA	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
TAROFF	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	1
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	1
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	-1
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	0
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0

TRANSECT STRING
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QUAD	1
SPECIES	COVER
AMBART	1
ANDSCO	6
ASTLAT	5
ELYVIR	15
ERIANN	4
ERIVIL	15
GEUCAN	1
GLEHED	2
HELHEL	35
LOBSIP	8
OXASTR	1
SOLCAN	10
VIOSOR	4

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QUAD	2
SPECIES	COVER
ELYVIR	60
ERIVIL	25
EUPRUG	2
PHAARU	5
RUDTRI	8

SOLCAN	4
SORNUT	5
>	
QUAD	3
SPECIES	COVER
BROJAP	2
ELYVIR	15
ERIVIL	6
EUPRUG	50
GEUCAN	2
HELHEL	10
RUDTRI	2
SOLCAN	10
VERHAS	2
>	
QUAD	4
SPECIES	COVER
ANDGER	4
ASTLAT	2
ELYVIR	15
OXASTR	2
PANVIR	1
RUDTRI	25
SETGLA	5
TAROFF	1
>	
QUAD	5
SPECIES	COVER
ELYVIR	2
ERIVIL	10
GLEHED	4
HELHEL	1
SORNUT	15
VIOSOR	3
>	
QUAD	6
SPECIES	COVER
AMBART	2
ANDGER	30
ELYVIR	2
POAPRA	5

RUDTRI	10
SOLCAN	4
>	
QUAD	7
SPECIES	COVER
ERIVIL	50
SETGLA	4
>	
QUAD	8
SPECIES	COVER
ANDGER	20
ELYCAN	2
ELYVIR	3
ERIVIL	2
POAPRA	3
SORNUT	60
TAROFF	1
>	
QUAD	9
SPECIES	COVER
ELYVIR	2
ERIANN	2
ERIVIL	25
GEUCAN	1
OXASTR	1
SOLCAN	8
SORNUT	10
>	
QUAD	10
SPECIES	COVER
ABUTHE	2
ERIVIL	15
HELHEL	10
PANVIR	15
POAPRA	4
TAROFF	4
>	
QUAD	11
SPECIES	COVER
BROJAP	1
DIGSAN	4

ECHPUR	6
ERIVIL	2
EUPSUP	25
PANCAP	3
PANVIR	20
POAPRA	2
RUDHIR	3
SETGLA	3
TRIHYB	2
VERURT	2

>

QUAD	12
SPECIES	COVER
AMBART	2
ANDSCO	20
DAUCAR	4
ERIVIL	15
HELGRO	1
HELHEL	40
MEDLUP	3
PANCAP	2
RUDHIR	6
SETGLA	6

>

QUAD	13
SPECIES	COVER
DAUCAR	8
ERIVIL	15
EUPALT	5
HELGRO	2
PLALAN	5
RUDHIR	10
RUDTRI	10
SETGLA	10
SORNUT	30
TRIHYB	20

SITE: WCERT
LOCALE: 5D Mack Rd
BY: WS
DATE: 9/5/2019

TRANSECT QUADRAT QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T01-01	3	3	4.24	4.24	0.5	0.5	2	2
T01-02	3.33	3.33	5.77	5.77	0.67	0.67	3	3
T01-03	3.25	3.25	6.5	6.5	0.25	0.25	4	4
T01-04	3.33	3.33	5.77	5.77	0	0	3	3
T01-05	2.5	2.5	3.54	3.54	0	0	2	2
T01-06	1.5	1.5	2.12	2.12	0	0	2	2
T01-07	3	3	4.24	4.24	0.5	0.5	2	2
T01-08	4	4	8	8	1	1	4	4
T01-09	5	5	5	5	0	0	1	1
T01-10	3	3	4.24	4.24	0.5	0.5	2	2
T01-11	5	5	5	5	0	0	1	1
T01-12	3.5	3.5	7	7	0.5	0.5	4	4
T01-13	4	4	8	8	1	1	4	4
T01-14	3.8	3.8	8.5	8.5	0.4	0.4	5	5
T01-15	3	2	4.24	3.46	0.5	1	2	3
T01-16	3.67	3.67	6.35	6.35	0.67	0.67	3	3
T01-17	4	4	5.66	5.66	0	0	2	2
T01-18	3.75	3.75	7.5	7.5	0.25	0.25	4	4
T01-19	4.33	3.25	7.51	6.5	0.33	0.75	3	4
T01-20	4.25	4.25	8.5	8.5	0.25	0.25	4	4
T01-21	4.75	3.17	9.5	7.76	0.5	0.5	4	6
T01-22	5	5	7.07	7.07	0.5	0.5	2	2
T01-23	5	5	5	5	0	0	1	1
T01-24	3.67	3.67	6.35	6.35	0.67	0.67	3	3
T01-25	5	5	5	5	0	0	1	1
T01-26	3.33	3.33	5.77	5.77	0	0	3	3
T01-27	4.5	4.5	6.36	6.36	-0.5	-0.5	2	2
T01-28	4.33	4.33	7.51	7.51	0.33	0.33	3	3
T01-29	5.33	5.33	9.24	9.24	0.67	0.67	3	3
T01-30	4.67	4.67	8.08	8.08	0	0	3	3
T01-31	6.33	6.33	10.97	10.97	0.33	0.33	3	3
T01-32	5	1.67	5	2.89	0	0.33	1	3

T01-33	5	2.5	5	3.54	0	1	1	2
T01-34	4.5	4.5	9	9	0.75	0.75	4	4
T01-35	5	5	7.07	7.07	0.5	0.5	2	2
T01-36	4.6	3.83	10.29	9.39	0.4	0.67	5	6
T01-37	4.5	3	6.36	5.2	0.5	0.67	2	3
T01-38	3.67	2.75	6.35	5.5	0.67	0.25	3	4
T01-39	2.75	2.2	5.5	4.92	-1	-1	4	5
T01-40	3	1.5	4.24	3	-1	-0.25	2	4
T01-41	5	3.33	7.07	5.77	0.5	0	2	3
T01-42	4.6	3.29	10.29	8.69	0.4	0.43	5	7
T01-43	3	3	4.24	4.24	0.5	0.5	2	2
T01-44	3.5	3.5	7	7	1	1	4	4
T01-45	5	3.33	7.07	5.77	0.5	1	2	3
T01-46	5	2.5	5	3.54	0	1	1	2
AVG	4.07	3.59	6.48	6.1	0.29	0.38	2.72	3.11
STD	0.94	1.06	1.94	1.98	0.42	0.43	1.17	1.34

TRANSECT SUMMARY

C	NUMBER				
0	1			20	NATIVE SPECIES
1	3			27	TOTAL SPECIES
2	2			3.65	NATIVE MEAN C
3	2			2.7	W/Adventives
4	5	0:	5.00%	16.32	NATIVE FQI
5	5	1 to 3:	35.00%	14.05	W/Adventives
6	1	4 to 6:	55.00%	0.3	NATIVE MEAN W
7	0	7 to 10:	5.00%	0.37	W/Adventives
8	0				
9	1				
10	0				

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	20	74.07%	ADVENTIVE	7	25.93%
Tree	1	3.70%	Tree	0	0.00%
Shrub	2	7.41%	Shrub	0	0.00%
Vine	1	3.70%	Vine	0	0.00%
Forb	11	40.74%	Forb	4	14.81%
Grass	4	14.81%	Grass	3	11.11%
Sedge	1	3.70%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Tree	1	10	0.7	0.2	1
N Shrub	3	60	2.1	1.3	2
N Vine	1	10	0.7	0.2	1
N Forb	46	976	32.2	20.4	#
N Grass	72	3450	50.3	72	#
N Sedge	2	30	1.4	0.6	1
A Forb	11	90	7.7	1.9	5
A Grass	7	165	4.9	3.4	4

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Andropogon gerardii	5	FAC	42	#	29	63.1	46.3
Solidago canadensis	1	FACU	20	#	14	13.9	13.9
Sorghastrum nutans	5	FACU	21	#	15	5.9	10.3
Panicum virgatum	3	FAC	7	#	4.9	2.5	3.7
Helianthus grosseserratus	4	FACW	10	#	7	2.2	4.6
Silphium integrifolium	5	UPL	5	#	3.5	1.9	2.7
Schedonorus pratensis	0	FACU	1	#	0.7	1.7	1.2
Melilotus albus	0	UPL	7	#	4.9	1.5	3.2
Salix interior	2	FACW	2	#	1.4	1.1	1.3
Euthamia graminifolia	4	FACW	1	#	0.7	1	0.9
Phalaris arundinacea	0	FACW	2	#	1.4	0.9	1.2

Agrostis gigantea	0	FACW	4	#	2.8	0.8	1.8
Carex vulpinoidea	2	FACW	2	#	1.4	0.6	1
Eryngium yuccifolium	9	FAC	3	#	2.1	0.5	1.3
Elymus canadensis	4	FACU	2	#	1.4	0.4	0.9
Monarda fistulosa	4	FACU	2	#	1.4	0.3	0.8
Juglans nigra	3	FACU	1	#	0.7	0.2	0.5
Convolvulus arvensis	0	UPL	2	#	1.4	0.2	0.8
Vitis riparia	1	FACW	1	#	0.7	0.2	0.5
Physostegia virginiana	4	FACW	1	8	0.7	0.2	0.4
Coreopsis tripteris	5	FAC	1	5	0.7	0.1	0.4
Symphyotrichum ericoides	6	FACU	1	5	0.7	0.1	0.4
Rudbeckia triloba	1	FACU	1	5	0.7	0.1	0.4
Trifolium hybridum	0	FACU	1	5	0.7	0.1	0.4
Corylus americana	5	FACU	1	5	0.7	0.1	0.4
Rumex crispus	0	FAC	1	5	0.7	0.1	0.4
Eupatorium altissimum	0	UPL	1	5	0.7	0.1	0.4
			143	#			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
AGRALB	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	-1
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	-1
CONARV	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	2
CORTRI	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	0
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	1
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	1
ERYYUC	Eryngium yuccifolium	Eryngium yuccifolium	Button Eryngo	9	FAC	0
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	2
EUTGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	-1
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	-1
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	1
MELALB	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	2
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
PANVIR	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	0
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	-1

RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	0
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	-1
FESELA	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	1
SILINT	Silphium integrifolium	Silphium integrifolium var. deamii; Silphium integrifolium var. neglectum	Entire-Leaf Rosinweed	5	UPL	2
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
ASTERI	Symphyotrichum ericoides	Aster ericoides	White Heath American-Aster	6	FACU	1
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	1
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	-1

TRANSECT STRING

>
QUAD 1
SPECIES COVER
ANDGER 40
SOLCAN 60

>
QUAD 2
SPECIES COVER
ANDGER 20
ELYCAN 5
SOLCAN 80

>
QUAD 3
SPECIES COVER
ANDGER 5
HELGRO 20
JUGNIG 10
SOLCAN 80

>
QUAD 4
SPECIES COVER
ANDGER 5
HELGRO 10
SOLCAN 90

>
QUAD 5

SPECIES COVER
HELGRO 5
SOLCAN 100
>
QUAD 6
SPECIES COVER
SALINT 50
SOLCAN 50
>
QUAD 7
SPECIES COVER
ANDGER 40
SOLCAN 60
>
QUAD 8
SPECIES COVER
ANDGER 75
SILINT 15
SOLCAN 10
SORNUT 10
>
QUAD 9
SPECIES COVER
ANDGER 100
>
QUAD 10
SPECIES COVER
ANDGER 100
SOLCAN 5
>
QUAD 11
SPECIES COVER
ANDGER 100
>
QUAD 12
SPECIES COVER
ANDGER 95
PANVIR 5
SOLCAN 10
SORNUT 10
>

QUAD	13
SPECIES	COVER
ANDGER	95
SILINT	5
SOLCAN	10
SORNUT	10
>	
QUAD	14
SPECIES	COVER
ANDGER	80
MONFIS	8
PHYVIR	8
SOLCAN	10
SORNUT	10
>	
QUAD	15
SPECIES	COVER
ANDGER	90
CONARV	5
SOLCAN	10
>	
QUAD	16
SPECIES	COVER
ANDGER	75
SOLCAN	5
SORNUT	10
>	
QUAD	17
SPECIES	COVER
ANDGER	80
PANVIR	10
>	
QUAD	18
SPECIES	COVER
ANDGER	75
HELGRO	10
SOLCAN	10
SORNUT	5
>	
QUAD	19
SPECIES	COVER

ANDGER	80
CONARV	5
PANVIR	5
SORNUT	10
>	
QUAD	20
SPECIES	COVER
ANDGER	75
CORTRI	5
SALINT	5
SILINT	30
>	
QUAD	21
SPECIES	COVER
ANDGER	40
HELGRO	5
MELALB	5
PHAARU	25
SILINT	10
SORNUT	20
>	
QUAD	22
SPECIES	COVER
ANDGER	90
SORNUT	5
>	
QUAD	23
SPECIES	COVER
ANDGER	100
>	
QUAD	24
SPECIES	COVER
ANDGER	80
SOLCAN	5
SORNUT	5
>	
QUAD	25
SPECIES	COVER
ANDGER	100
>	
QUAD	26

SPECIES	COVER
ANDGER	90
HELGRO	5
SOLCAN	10
>	
QUAD	27
SPECIES	COVER
ANDGER	90
HELGRO	20
>	
QUAD	28
SPECIES	COVER
ANDGER	60
PANVIR	40
SORNUT	10
>	
QUAD	29
SPECIES	COVER
ANDGER	80
ASTERI	5
SORNUT	20
>	
QUAD	30
SPECIES	COVER
ANDGER	75
HELGRO	15
SORNUT	10
>	
QUAD	31
SPECIES	COVER
ANDGER	75
ERYYUC	10
SORNUT	15
>	
QUAD	32
SPECIES	COVER
ANDGER	50
MELALB	25
PHAARU	20
>	
QUAD	33

SPECIES	COVER
ANDGER	80
MELALB	10
>	
QUAD	34
SPECIES	COVER
ANDGER	20
PANVIR	30
SILINT	30
SORNUT	20
>	
QUAD	35
SPECIES	COVER
ANDGER	90
SORNUT	20
>	
QUAD	36
SPECIES	COVER
ANDGER	10
ERYYUC	5
MELALB	5
PANVIR	25
RUDTRI	5
SORNUT	40
>	
QUAD	37
SPECIES	COVER
ANDGER	80
ELYCAN	15
TRIHYB	5
>	
QUAD	38
SPECIES	COVER
AGRALB	5
ANDGER	75
CORAME	5
SOLCAN	40
>	
QUAD	39
SPECIES	COVER
AGRALB	20

CXVULP	20
EUTGRA	50
HELGRO	5
VITRIP	10
>	
QUAD	40
SPECIES	COVER
CXVULP	10
FESELA	80
HELGRO	10
RUMCRI	5
>	
QUAD	41
SPECIES	COVER
AGRALB	10
ANDGER	90
SORNUT	10
>	
QUAD	42
SPECIES	COVER
AGRALB	5
ANDGER	40
ERYYUC	10
MELALB	10
PANVIR	5
SOLCAN	10
SORNUT	30
>	
QUAD	43
SPECIES	COVER
ANDGER	90
SOLCAN	10
>	
QUAD	44
SPECIES	COVER
ANDGER	100
EUPALT	5
MONFIS	5
SORNUT	5
>	
QUAD	45

SPECIES	COVER
ANDGER	90
MELALB	5
SORNUT	10
>	
QUAD	46
SPECIES	COVER
ANDGER	100
MELALB	10
>	

SITE: WCERT
LOCALE: 5E
BY: WS, MO, WO
DATE: 9/5/2019

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T01-01	2.17	1.63	5.31	4.6	-0.17	0	6	8
T01-02	2.33	2.33	5.72	5.72	0.67	0.67	6	6
T01-03		0	0	0		1		2
T01-04	0.5	0.25	0.71	0.5	1	1	2	4
T01-05	1.25	0.83	2.5	2.04	0.5	0.67	4	6
T01-06		0	0	0		0		1
T01-07	5	2.5	5	3.54	0	0	1	2
T01-08	1	0.25	1	0.5	1	0.75	1	4
T01-09	0.33	0.17	0.58	0.41	0.67	1	3	6
T01-10	2	0.67	2.83	1.63	1.5	1	2	6
T01-11	5	1.67	5	2.89	0	0.67	1	3
T01-12	2	0.5	2	1	0	1	1	4
T01-13	1.6	1.14	3.58	3.02	0.6	0.71	5	7
T01-14	0.33	0.17	0.58	0.41	1	1	3	6
T01-15	0	0	0	0	1	1.4	1	5
T01-16		0	0	0		1		3
T01-17	2.33	1.75	5.72	4.95	1.17	1.13	6	8
T01-18	2.75	2.2	5.5	4.92	0.75	1	4	5
T01-19	2.88	2.56	8.13	7.67	0.5	0.56	8	9
T01-20	3	2.14	6.71	5.67	1	0.86	5	7
T01-21	3.33	3.33	5.77	5.77	1	1	3	3
T01-22	1.5	1	2.12	1.73	0.5	1	2	3
T02-01	2.86	1.82	7.56	6.03	1	1.09	7	11
T02-02	0	0	0	0	0.5	0.67	2	6
T02-03	0	0	0	0	-1	-0.5	1	2
T02-04	0	0	0	0	0.67	0.4	3	5
T02-05		0	0	0		0		1
T02-06		0	0	0		0		1
T02-07	0	0	0	0	1	1	2	4
T02-08		0	0	0		0		1
T02-09	0	0	0	0	1	1	1	6
T02-10		0	0	0		1		3
T02-11	1.33	0.8	2.31	1.79	0.67	0.8	3	5

T02-12		0	0	0		0		1
T02-13	4	1	4	2	1	1	1	4
T02-14	1	1	1.41	1.41	1	1	2	2
T02-15	1.25	0.83	2.5	2.04	1	1	4	6
T02-16	0.33	0.17	0.58	0.41	1	1	3	6
T02-17	4	1.33	4	2.31	1	1	1	3
T02-18	0.25	0.13	0.5	0.35	0.75	0.88	4	8
T02-19	0.5	0.29	1	0.76	0.25	0.71	4	7
T02-20	1.5	0.75	2.12	1.5	0	0.5	2	4
T02-21	1	0.75	1.73	1.5	1	0.75	3	4
T02-22	0	0	0	0	1	0.5	1	2
T02-23	0.33	0.25	0.58	0.5	0.67	0.5	3	4
T03-01	0.75	0.43	1.5	1.13	0.5	0.71	4	7
T03-02	1.5	1.2	3	2.68	0.75	0.6	4	5
T03-03	3.33	2	5.77	4.47	0.67	0.8	3	5
T03-04	1.67	1.25	2.89	2.5	0	0	3	4
T03-05		0	0	0		0		1
T04-01	3.17	2.38	7.76	6.72	1	0.88	6	8
T04-02	2	1.25	4.47	3.54	1	1	5	8
T04-03	3.2	2.29	7.16	6.05	0.8	0.86	5	7
T04-04	4.25	3.4	8.5	7.6	0.25	0.6	4	5
T05-01	1	0.75	2.45	2.12	0.33	0.38	6	8
T05-02	0.63	0.5	1.77	1.58	0	0.3	8	10
T05-03	2	1.33	4	3.27	0.25	0.5	4	6
T05-04	2.33	2	5.72	5.29	0.17	0.43	6	7
T06-01	1.33	1	2.31	2	0.33	0	3	4
T06-02	1	1	1.73	1.73	0.67	0.67	3	3
T06-03	2.86	2.86	7.56	7.56	-0.14	-0.14	7	7
T06-04	1.67	1.25	4.08	3.54	0.5	0.75	6	8
T06-05	4.33	2.89	10.61	8.67	-0.83	-0.56	6	9
T06-06	3.4	2.83	13.17	12.02	-0.73	-0.61	15	18
T06-07	4.57	4.57	12.09	12.09	-0.57	-0.57	7	7
AVG		1.58	1.07	3.13	2.65	0.46	0.59	3.32	5.25
STD		1.47	1.07	3.21	2.93	0.53	0.48	2.68	2.91

TRANSECT SUMMARY

C	NUMBER				
				72	NATIVE SPECIES
0	17			94	TOTAL SPECIES
					NATIVE MEAN
1	8			2.97	C
2	4			2.28	W/Adventives
3	9	0:	23.61%	25.22	NATIVE FQI
4	13	1 to 3:	29.17%	22.07	W/Adventives
					NATIVE MEAN
5	15	4 to 6:	41.67%	0	W
6	2	7 to 10:	5.56%	0.21	W/Adventives
7	2				
8	1				
9	0				
10	1				

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	72	76.60%	ADVENTIVE	23.40%
Tree	3	3.19%	Tree	2.13%
Shrub	5	5.32%	Shrub	3.19%
Vine	2	2.13%	Vine	0.00%
Forb	42	44.68%	Forb	13.83%
Grass	12	12.77%	Grass	4.26%
Sedge	8	8.51%	Sedge	0.00%
Fern	0	0.00%		

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Tree	5	39	1.5	0.7	1.1
N Shrub	7	69	2.1	1.3	1.7
N Vine	2	3	0.6	0.1	0.3
N Forb	137	1433	40.2	27.5	33.8
N Grass	43	787	12.6	15.1	13.8

N Sedge	22	161	6.5	3.1	4.8
A Tree	2	8	0.6	0.2	0.4
A Shrub	3	10	0.9	0.2	0.5
A Forb	35	158	10.3	3	6.6
A Grass	85	2551	24.9	48.9	36.9

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Setaria pumila	0	FAC	45	1784	13.2	34.2	23.7
Eriochloa villosa	0	UPL	34	723	10	13.9	11.9
Andropogon gerardii	5	FAC	15	479	4.4	9.2	6.8
Rudbeckia triloba	1	FACU	12	421	3.5	8.1	5.8
Erigeron annuus	0	FACU	18	183	5.3	3.5	4.4
Sorghastrum nutans	5	FACU	6	120	1.8	2.3	2
Carex blanda	1	FAC	12	106	3.5	2	2.8
Solidago canadensis	1	FACU	5	97	1.5	1.9	1.7
Pycnanthemum virginianum	5	FACW	2	87	0.6	1.7	1.1
Muhlenbergia schreberi	0	FAC	5	76	1.5	1.5	1.5
Symphyotrichum pilosum	0	FACU	8	66	2.3	1.3	1.8
Ambrosia artemisiifolia	0	FACU	13	63	3.8	1.2	2.5
Symphyotrichum lanceolatum	3	FAC	2	54	0.6	1	0.8
Ratibida pinnata	4	UPL	8	47	2.3	0.9	1.6
Chamaesyce nutans	0	FACU	7	44	2.1	0.8	1.4
Rudbeckia hirta	1	FACU	9	40	2.6	0.8	1.7
Salix interior	2	FACW	2	31	0.6	0.6	0.6
Bromus inermis	0	FACU	3	30	0.9	0.6	0.7
Cirsium discolor	3	FACU	2	30	0.6	0.6	0.6
Prunus americana	3	UPL	3	29	0.9	0.6	0.7
Panicum capillare	0	FAC	5	29	1.5	0.6	1
Rumex crispus	0	FAC	6	28	1.8	0.5	1.1
Persicaria pensylvanica	0	FACW	3	26	0.9	0.5	0.7
Verbena urticifolia	2	FAC	4	24	1.2	0.5	0.8
Carex granularis	3	FACW	3	22	0.9	0.4	0.7
Trifolium pratense	0	FACU	6	22	1.8	0.4	1.1
Glechoma hederacea	0	FACU	4	22	1.2	0.4	0.8
Elymus virginicus	3	FACW	4	22	1.2	0.4	0.8
Convolvulus arvensis	0	UPL	2	20	0.6	0.4	0.5
Monarda fistulosa	4	FACU	4	20	1.2	0.4	0.8

Sanicula odorata	3	FAC	1	20	0.3	0.4	0.3
Calamagrostis canadensis	6	OBL	1	20	0.3	0.4	0.3
Verbena hastata	4	FACW	3	16	0.9	0.3	0.6
Lactuca canadensis	1	FACU	2	16	0.6	0.3	0.4
Corylus americana	5	FACU	2	15	0.6	0.3	0.4
Juncus dudleyi	2	FACW	1	15	0.3	0.3	0.3
Eupatorium altissimum	0	UPL	3	14	0.9	0.3	0.6
Panicum dichotomiflorum	0	FACW	2	14	0.6	0.3	0.4
Phalaris arundinacea	0	FACW	3	14	0.9	0.3	0.6
Oxalis stricta	0	FACU	4	13	1.2	0.2	0.7
Ageratina altissima	3	FACU	2	13	0.6	0.2	0.4
Viola sororia	3	FAC	2	11	0.6	0.2	0.4
Trifolium repens	0	FACU	4	11	1.2	0.2	0.7
Geum canadense	1	FAC	2	11	0.6	0.2	0.4
Plantago lanceolata	0	FACU	2	10	0.6	0.2	0.4
Solanum carolinense	0	FACU	2	10	0.6	0.2	0.4
Silphium integrifolium	5	UPL	1	10	0.3	0.2	0.2
Viburnum prunifolium	5	FACU	1	10	0.3	0.2	0.2
Verbesina alternifolia	5	FACW	1	10	0.3	0.2	0.2
Carex grisea	3	FAC	1	10	0.3	0.2	0.2
Lysimachia ciliata	7	FACW	1	10	0.3	0.2	0.2
Rudbeckia subtomentosa	8	FACU	1	10	0.3	0.2	0.2
Iris virginica var. shrevei	5	OBL	1	10	0.3	0.2	0.2
Cyperus esculentus	0	FACW	2	9	0.6	0.2	0.4
Verbascum thapsus	0	UPL	2	9	0.6	0.2	0.4
Cornus racemosa	1	FAC	1	8	0.3	0.2	0.2
Trifolium hybridum	0	FACU	1	8	0.3	0.2	0.2
Schizachyrium scoparium	5	FACU	1	8	0.3	0.2	0.2
Leonurus cardiaca	0	UPL	2	6	0.6	0.1	0.4
Euthamia graminifolia	4	FACW	1	6	0.3	0.1	0.2
Heliopsis helianthoides	7	FACU	2	6	0.6	0.1	0.4
Leersia virginica	5	FACW	1	6	0.3	0.1	0.2
Thalictrum dasycarpum	6	FACW	1	6	0.3	0.1	0.2
Rhamnus cathartica	0	FAC	1	6	0.3	0.1	0.2
Physostegia virginiana	4	FACW	1	5	0.3	0.1	0.2
Sonchus arvensis	0	FACU	1	5	0.3	0.1	0.2
Acer saccharum	5	FACU	1	5	0.3	0.1	0.2
Fragaria virginiana	0	FACU	1	5	0.3	0.1	0.2
Fraxinus pennsylvanica	4	FACW	1	5	0.3	0.1	0.2
Morus alba	0	FAC	1	5	0.3	0.1	0.2
Prunus serotina	0	FACU	1	5	0.3	0.1	0.2

Elymus canadensis	4	FACU	1	5	0.3	0.1	0.2
Erigeron canadensis	0	FACU	1	5	0.3	0.1	0.2
Carex vulpinoidea	2	FACW	1	5	0.3	0.1	0.2
Anemone virginiana	5	FACU	1	4	0.3	0.1	0.2
Plantago major	0	FAC	1	4	0.3	0.1	0.2
Echinochloa crus-galli	0	FACW	1	4	0.3	0.1	0.2
Muhlenbergia mexicana	5	FACW	1	4	0.3	0.1	0.2
Carex pellita	4	OBL	1	4	0.3	0.1	0.2
Daucus carota	0	UPL	2	3	0.6	0.1	0.3
Plantago rugelii	0	FAC	1	3	0.3	0.1	0.2
Amelanchier canadensis	0	FACU	1	3	0.3	0.1	0.2
Carex plantaginea	10	UPL	1	3	0.3	0.1	0.2
Scutellaria lateriflora	4	OBL	1	3	0.3	0.1	0.2
Lonicera tatarica	0	FACU	1	2	0.3	.	0.2
Acalypha rhomboidea	0	FACU	1	2	0.3	.	0.2
Symphyotrichum lateriflorum	4	FACW	1	2	0.3	.	0.2
Parthenocissus quinquefolia	4	FACU	1	2	0.3	.	0.2
Boehmeria cylindrica	5	OBL	1	2	0.3	.	0.2
Rosa multiflora	0	FACU	1	2	0.3	.	0.2
Lobelia siphilitica	4	OBL	1	2	0.3	.	0.2
Carex lacustris	5	OBL	1	2	0.3	.	0.2
Rudbeckia laciniata	4	FACW	1	1	0.3	.	0.2
Vitis riparia	1	FACW	1	1	0.3	.	0.2
			341	5219			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
ACARHO	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	1
ACESAU	Acer saccharum	Acer saccharum	Sugar Maple	5	FACU	1
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	1
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	1
AMECAN	Amelanchier canadensis	Amelanchier canadensis	Canadian Service-Berry	0	FACU	1
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
ANEVIR	Anemone virginiana	Anemone virginiana	Tall Thimbleweed	5	FACU	1
BOECYL	Boehmeria cylindrica	Boehmeria cylindrica drummondiana	Small-Spike False Nettle	5	OBL	-2
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	1

CALCAN	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	-2
CXBLAN	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	0
CXGRAN	Carex granularis	Carex granularis	Limestone-Meadow Sedge	3	FACW	-1
CXGRIS	Carex grisea	Carex grisea	Inflated Narrow-Leaf Sedge	3	FAC	0
CXLACU	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	-2
CXPELL	Carex pellita	Carex pellita	Woolly Sedge	4	OBL	-2
CXPLAN	Carex plantaginea	Carex plantaginea	Plantain-Leaf Sedge	10	UPL	2
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	-1
CHANUT	Chamaesyce nutans	Chamaesyce nutans	Eyebane	0	FACU	1
CIRDIS	Cirsium discolor	Cirsium discolor	Field Thistle	3	FACU	1
CONARV	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	2
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	0
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	1
CYPESC	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	-1
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	2
ECHCRU	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	-1
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	1
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	1
CONCAN	Erigeron canadensis	Conyza canadensis	Canadian Horseweed	0	FACU	1
ERIVIL	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	2
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	2
SOLGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	-1
FRAVIR	Fragaria virginiana	Fragaria virginiana	Virginia Strawberry	0	FACU	1
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	-1
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	0
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	1
IRIVIR	Iris virginica var. shrevei	Iris virginica shrevei	Virginia Blueflag	5	OBL	-2
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	-1
LACCAN	Lactuca canadensis	Lactuca canadensis	Canadian Blue Lettuce	1	FACU	1
LEEVIR	Leersia virginica	Leersia virginica	White Grass	5	FACW	-1
LEOCAR	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	2
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	-2
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	1
LYSCIL	Lysimachia ciliata	Lysimachia ciliata	Fringed Yellow-Loosestrife	7	FACW	-1
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
MORALB	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	0
MUHMEX	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	-1
MUHSCH	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	0

OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
PANCAP	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	0
PANDIC	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	-1
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	1
POLPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	-1
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	-1
PLALAN	Plantago lanceolata	PLANTAGO LANCEOLATA	English Plantain	0	FACU	1
PLAMAJ	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	0
PLARUG	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	0
PRUAME	Prunus americana	Prunus americana	American Plum	3	UPL	2
PRUSER	Prunus serotina	Prunus serotina	Black Cherry	0	FACU	1
PYCVIR	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	-1
RATPIN	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	2
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	0
ROSMUL	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	1
RUDHIR	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	1
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	-1
RUDSUB	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	1
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	0
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	-1
SANGRE	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	0
SCHSCO	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	1
SCULAT	Scutellaria lateriflora	Scutellaria lateriflora	Mad Dog Skullcap	4	OBL	-2
SETPUM	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
SILINT	Silphium integrifolium	Silphium integrifolium var. deamii; Silphium integrifolium var. neglectum	Entire-Leaf Rosinweed	5	UPL	2
SOLCAR	Solanum carolinense	SOLANUM CAROLINENSE	Carolina Horse-Nettle	0	FACU	1
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
SONARV	Sonchus arvensis	SONCHUS ARVENSIS	Field Sow-Thistle	0	FACU	1
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
ASTSIM	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	0
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
ASTPIL	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
THADAS	Thalictrum dasycarpum	Thalictrum dasycarpum hypoglaucum	Purple Meadow-Rue	6	FACW	-1
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	1
TRIPRA	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	1
TRIREP	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	1
VERTHA	Verbascum thapsus	VERBASCUM THAPSUS	Woolly Mullein	0	UPL	2

VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	-1
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	0
VERALT	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	-1
VIBPRU	Viburnum prunifolium	Viburnum prunifolium	Smooth Blackhaw	5	FACU	1
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	-1

TRANSECT STRING

>

QUAD	1
SPECIES	COVER
ANDGER	10
ASTPIL	10
CYPESC	5
ERIANN	5
PHYVIR	5
PLALAN	5
SETPUM	25
VERHAS	6

>

QUAD	2
SPECIES	COVER
AMBART	8
ANDGER	15
ASTPIL	20
RATPIN	5
RUDTRI	15
VERHAS	6

>

QUAD	3
SPECIES	COVER
ERIVIL	2
SETPUM	100

>

QUAD	4
SPECIES	COVER
ERIANN	2
ERIVIL	20
RUDTRI	5

SETPUM	50
>	
QUAD	5
SPECIES	COVER
CXBLAN	6
CXGRAN	6
ERIVIL	10
EUPALT	8
RUDHIR	2
SETPUM	20
>	
QUAD	6
SPECIES	COVER
SETPUM	80
>	
QUAD	7
SPECIES	COVER
ANDGER	30
SETPUM	70
>	
QUAD	8
SPECIES	COVER
ERIVIL	8
RUDTRI	8
RUMCRI	6
SETPUM	80
>	
QUAD	9
SPECIES	COVER
CONARV	5
CXBLAN	15
ERIANN	6
ERIVIL	20
OXASTR	6
SETPUM	50
>	
QUAD	10
SPECIES	COVER
ERIANN	10
ERIVIL	40
RATPIN	5

RUMCRI	5
SETPUM	50
SOLCAR	6
>	
QUAD	11
SPECIES	COVER
ANDGER	10
ERIVIL	10
SETPUM	90
>	
QUAD	12
SPECIES	COVER
CONARV	15
ERIVIL	30
SETPUM	10
VERURT	10
>	
QUAD	13
SPECIES	COVER
AMBART	6
ANDGER	20
ERIANN	20
ERIVIL	20
RUDHIR	8
SETPUM	20
VERURT	6
>	
QUAD	14
SPECIES	COVER
AMBART	4
ERIANN	5
ERIVIL	20
RUDHIR	3
SETPUM	5
SONARV	5
>	
QUAD	15
SPECIES	COVER
AMBART	2
ERIVIL	10
LEOCAR	1

SETPUM	10
VERTHA	5
>	
QUAD	16
SPECIES	COVER
ERIVIL	40
SETPUM	50
SOLCAR	4
>	
QUAD	17
SPECIES	COVER
ERIANN	8
ERIVIL	30
EUPALT	4
RATPIN	2
RUDHIR	5
SETPUM	20
SILINT	10
VERHAS	4
>	
QUAD	18
SPECIES	COVER
ANDGER	60
ERIANN	8
ERIVIL	5
PRUAME	4
VIOSOR	5
>	
QUAD	19
SPECIES	COVER
ACESAU	5
BROINE	20
CORAME	10
CORRAC	8
FRAPEN	5
FRAVIR	5
PRUAME	20
SOLCAN	50
SOLGRA	6
>	
QUAD	20

SPECIES	COVER
ANDGER	75
BROINE	5
MORALB	5
PRUAME	5
RUDTRI	5
SOLCAN	10
VIBPRU	10

>
QUAD 21

SPECIES	COVER
ANDGER	100
CORAME	5
EUPALT	2

>
QUAD 22

SPECIES	COVER
ERIVIL	90
RUDHIR	5
VERURT	5

>
QUAD 23

SPECIES	COVER
ANEVIR	4
BROINE	5
ERIVIL	5
HELHEL	4
LACCAN	10
LONTAT	2
PRUSER	5
RUDTRI	5
SOLCAN	30
SORNUT	40
TRIREP	2

>
QUAD 24

SPECIES	COVER
CHANUT	10
ERIVIL	15
PANCAP	5
RUMCRI	5

SETPUM	20
TRIPRA	3
>	
QUAD	25
SPECIES	COVER
POLPEN	8
SETPUM	70
>	
QUAD	26
SPECIES	COVER
CHANUT	8
ERIANN	4
PANCAP	5
RUMCRI	6
SETPUM	50
>	
QUAD	27
SPECIES	COVER
SETPUM	50
>	
QUAD	28
SPECIES	COVER
SETPUM	60
>	
QUAD	29
SPECIES	COVER
AMBART	3
ERIANN	10
ERIVIL	4
SETPUM	70
>	
QUAD	30
SPECIES	COVER
SETPUM	50
>	
QUAD	31
SPECIES	COVER
ERIANN	5
ERIVIL	80
RUMCRI	4
SETPUM	10

TRIPRA	3
VERTHA	4
>	
QUAD	32
SPECIES	COVER
ERIVIL	20
SETPUM	20
TRIHYB	8
>	
QUAD	33
SPECIES	COVER
AMBART	2
ELYCAN	5
ERIVIL	20
PANCAP	6
SETPUM	20
>	
QUAD	34
SPECIES	COVER
SETPUM	60
>	
QUAD	35
SPECIES	COVER
ERIVIL	25
MONFIS	8
SETPUM	20
TRIREP	3
>	
QUAD	36
SPECIES	COVER
LACCAN	6
RUDTRI	8
>	
QUAD	37
SPECIES	COVER
AMBART	10
ASTPIL	8
CXBLAN	15
ERIVIL	10
RATPIN	5
SETPUM	3

>
QUAD 38
SPECIES COVER
AMBART 5
ASTPIL 4
ERIVIL 40
RUDHIR 5
SETPUM 20
TRIPRA 4
>
QUAD 39
SPECIES COVER
ERIVIL 20
MONFIS 4
SETPUM 100
>
QUAD 40
SPECIES COVER
AMBART 5
ASTPIL 3
CXBLAN 4
ERIANN 25
ERIVIL 30
GLEHED 10
PLAMAJ 4
TRIPRA 4
>
QUAD 41
SPECIES COVER
AMBART 8
CXBLAN 5
DAUCAR 2
ERIVIL 20
POLPEN 10
RUDTRI 25
SETPUM 40
>
QUAD 42
SPECIES COVER
CIRDIS 15
ERIVIL 6

POLPEN 8
SETPUM 60
>
QUAD 43
SPECIES COVER
CIRDIS 15
CONCAN 5
ERIANN 5
SETPUM 50
>
QUAD 44
SPECIES COVER
ASTPIL 2
SETPUM 70
>
QUAD 45
SPECIES COVER
AMBART 6
ERIANN 6
GEUCAN 8
SETPUM 40
>
QUAD 46
SPECIES COVER
CHANUT 2
CXBLAN 10
ERIANN 5
ERIVIL 30
PLALAN 5
SETPUM 20
VERURT 3
>
QUAD 47
SPECIES COVER
CHANUT 5
CXBLAN 3
ERIANN 15
SETPUM 5
SORNUT 30
>
QUAD 48

SPECIES	COVER
ANDGER	8
CHANUT	5
ERIVIL	10
SETPUM	5
SORNUT	25
>	
QUAD	49
SPECIES	COVER
PANCAP	10
PANDIC	6
SETPUM	40
SORNUT	5
>	
QUAD	50
SPECIES	COVER
SETPUM	50
>	
QUAD	51
SPECIES	COVER
ANDGER	30
CHANUT	4
MONFIS	4
RATPIN	15
RUDTRI	10
SETPUM	10
SORNUT	10
TRIPRA	4
>	
QUAD	52
SPECIES	COVER
ANDGER	40
ASTPIL	15
CHANUT	10
LEOCAR	5
RATPIN	8
RUDHIR	5
SETPUM	30
TRIPRA	4
>	
QUAD	53

SPECIES	COVER
ANDGER	50
ERIANN	40
ERIVIL	10
MONFIS	4
RATPIN	4
SETPUM	5
VIOSOR	6

>

QUAD	54
SPECIES	COVER
ANDGER	10
CYPESC	4
ERIVIL	15
HELHEL	2
SORNUT	10

>

QUAD	55
SPECIES	COVER
ANDGER	6
ASTPIL	4
GLEHED	8
MUHSCH	10
OXASTR	3
PANDIC	8
RUDHIR	5
SETPUM	6

>

QUAD	56
SPECIES	COVER
ACARHO	2
CXBLAN	10
CXGRAN	6
ECHCRU	4
ERIANN	4
ERIVIL	2
GEUCAN	3
MUHSCH	6
PANCAP	3
TRIREP	3

>

QUAD	57
SPECIES	COVER
CXBLAN	15
CXGRAN	10
GLEHED	3
MUHSCH	20
RATPIN	3
TRIREP	3
>	
QUAD	58
SPECIES	COVER
ANDGER	15
CXBLAN	5
ELYVIR	6
ERIVIL	6
MUHSCH	30
OXASTR	3
SCHSCO	8
>	
QUAD	59
SPECIES	COVER
AMBART	3
ELYVIR	2
PHAARU	8
RUDTRI	85
>	
QUAD	60
SPECIES	COVER
CXBLAN	8
RUDHIR	2
RUDTRI	100
>	
QUAD	61
SPECIES	COVER
ASTLAT	2
CXBLAN	10
ELYVIR	8
EUPRUG	3
LEEVIR	6
RUDTRI	60
SANGRE	20

>

QUAD	62
SPECIES	COVER
AMBART	1
DAUCAR	1
GLEHED	1
MUHMEX	4
OXASTR	1
PARQUI	2
PLARUG	3
RUDTRI	95

>

QUAD	63
SPECIES	COVER
BOECYL	2
PHAARU	2
PYCVIR	85
ROSMUL	2
RUDLAC	1
RUMCRI	2
SOLCAN	2
THADAS	6
VERALT	10

>

QUAD	64
SPECIES	COVER
AMECAN	3
ASTSIM	4
CALCAN	20
CXGRIS	10
CXPELL	4
CXVULP	5
ELYVIR	6
JUNDUD	15
LOBSIP	2
LYSCIL	10
MUHSCH	10
PHAARU	4
PYCVIR	2
RHACAT	6
RUDSUB	10

SALINT	1
SOLCAN	5
VITRIP	1
>	
QUAD	65
SPECIES	COVER
ASTSIM	50
CXLACU	2
CXPLAN	3
EUPRUG	10
IRIVIR	10
SALINT	30
SCULAT	3
>	

SITE: WCERT
LOCALE: Reach 8A
BY: WS, WO, MO
DATE: 9/5/2019

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T10-01	2.63	2.33	7.42	7	0.13	0.22	8	9
T10-02	2.17	2.17	5.31	5.31	0.5	0.5	6	6
T11-01	1.33	1.33	2.31	2.31	-0.33	-0.33	3	3
T11-02	2.17	2.17	5.31	5.31	0.5	0.5	6	6
T12-01	1.8	1.38	5.69	4.99	-0.6	-0.54	10	13
T12-02	2.56	2.09	7.67	6.93	-0.56	-0.55	9	11
T12-03	2.29	2.29	6.05	6.05	-0.71	-0.71	7	7
T12-04	1.8	1.8	4.02	4.02	-1.2	-1.2	5	5
T12-05	0.89	0.67	2.67	2.31	-0.22	-0.17	9	12
T12-06	2.2	2.2	4.92	4.92	-0.8	-0.8	5	5
T12-07	2.2	2.2	4.92	4.92	-0.8	-0.8	5	5
T13-01	2.5	2.5	6.12	6.12	0.17	0.17	6	6
T13-02	2	2	4	4	-0.75	-0.75	4	4
T13-03	2.67	2.67	8	8	-1.33	-1.33	9	9
T13-04	2.09	2.09	6.93	6.93	-0.55	-0.55	11	11
T13-05	2.18	2.18	7.24	7.24	-0.73	-0.73	11	11
T13-06	2.33	2.33	7	7	-0.67	-0.67	9	9
T14-01	2.57	2.25	6.8	6.36	-0.29	-0.13	7	8
T14-02	2.5	2.14	6.12	5.67	-0.17	0	6	7
T14-03	2.86	2.5	7.56	7.07	-0.14	0.13	7	8
T14-04	2.2	2.2	4.92	4.92	-0.8	-0.8	5	5
T15-01	2	2	2.83	2.83	0.5	0.5	2	2
AVG	2.18	2.07	5.63	5.46	-0.4	-0.37	6.82	7.36
STD	0.45	0.44	1.68	1.62	0.52	0.54	2.46	3

TRANSECT SUMMARY

C	NUMBER
0	5
1	7
2	4
3	8
4	7
5	3
6	0
7	0
8	0
9	0
10	0

0:	14.71%
1 to 3:	55.88%
4 to 6:	29.41%
7 to 10:	0.00%

34	NATIVE SPECIES
39	TOTAL SPECIES
2.41	NATIVE MEAN C
2.1	W/Adventives
14.06	NATIVE FQI
13.13	W/Adventives
-0.38	NATIVE MEAN W
-0.31	W/Adventives

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	34	87.18%	ADVENTIVE	12.82%
Tree	0	0.00%	Tree	0.00%
Shrub	0	0.00%	Shrub	0.00%
Vine	2	5.13%	Vine	0.00%
Forb	26	66.67%	Forb	10.26%
Grass	5	12.82%	Grass	2.56%
Sedge	1	2.56%	Sedge	0.00%
Fern	0	0.00%		

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Vine	3	14	1.9	0.6	1.2
N Forb	128	2195	79	87.7	83.4
N Grass	18	214	11.1	8.5	9.8
N Sedge	1	8	0.6	0.3	0.5
A Forb	10	56	6.2	2.2	4.2
A Grass	2	16	1.2	0.6	0.9

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Rudbeckia triloba	1	FACU	16	625	9.9		17.4
Physostegia virginiana	4	FACW	11	265	6.8		8.7
Symphyotrichum lanceolatum	3	FAC	14	259	8.6		9.5
Persicaria hydropiper	2	OBL	11	199	6.8		7.4
Pilea pumila	2	FACW	8	162	4.9		5.7
Elymus virginicus	3	FACW	12	101	7.4		5.7
Rudbeckia laciniata	4	FACW	5	90	3.1		3.3
Bidens frondosa	1	FACW	8	75	4.9		4
Eupatorium serotinum	0	FAC	8	69	4.9		3.8
Solidago canadensis	1	FACU	7	64	4.3		3.4
Leersia oryzoides	3	OBL	1	60	0.6		1.5
Persicaria pensylvanica	0	FACW	4	55	2.5		2.3
Ageratina altissima	3	FACU	2	50	1.2		1.6
Urtica dioica ssp. gracilis	1	FACW	6	46	3.7		2.8
Silphium perfoliatum	5	FACW	2	43	1.2		1.5
Solidago gigantea	4	FACW	2	35	1.2		1.3
Glechoma hederacea	0	FACU	5	34	3.1		2.2
Hackelia virginiana	1	FACU	2	30	1.2		1.2
Muhlenbergia schreberi	0	FAC	1	30	0.6		0.9
Calystegia sepium	1	FAC	4	27	2.5		1.8
Persicaria amphibia	4	OBL	3	25	1.9		1.4
Verbena urticifolia	2	FAC	2	20	1.2		1
Muhlenbergia mexicana	5	FACW	3	17	1.9		1.3
Phalaris arundinacea	0	FACW	2	16	1.2		0.9
Persicaria maculosa	0	FACW	2	15	1.2		0.9
Parthenocissus quinquefolia	4	FACU	2	12	1.2		0.9
Viola sororia	3	FAC	2	9	1.2		0.8
Bidens cernua	3	OBL	2	9	1.2		0.8
Geum canadense	1	FAC	2	8	1.2		0.8
Schoenoplectus fluviatilis	4	OBL	1	8	0.6		0.5
Apocynum cannabinum	2	FAC	2	8	1.2		0.8
Symphyotrichum lateriflorum	4	FACW	2	7	1.2		0.8
Cinna arundinacea	5	FACW	1	6	0.6		0.4
Ambrosia trifida	0	FAC	1	5	0.6		0.4
Symphyotrichum pilosum	0	FACU	1	5	0.6		0.4
Helianthus tuberosus	3	FACU	1	5	0.6		0.4
Rumex crispus	0	FAC	2	4	1.2		0.7

Daucus carota	0	UPL	1	3	0.6	0.4
Fallopia cilinodis	3	UPL	1	2	0.6	0.3
			162	2503		

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	1
AMBTRI	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	0
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	0
BIDCER	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	-2
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	-1
CONSEP	Calystegia sepium	Convolvulus sepium	Hedge False Bindweed	1	FAC	0
CINARU	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	-1
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	2
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
EUPSER	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	0
FALCIL	Fallopia cilinodis	Polygonum cilinode	Bristly Climbing Buckwheat	3	UPL	2
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	0
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
HACVIR	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	1
HELTUB	Helianthus tuberosus	Helianthus tuberosus	Jerusalem-Artichoke	3	FACU	1
LEEORY	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	-2
MUHMEX	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	-1
MUHSCH	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	0
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	1
POLCOC	Persicaria amphibia	Polygonum coccineum; Polygonum amphibium stipulaceum	Water Smartweed	4	OBL	-2
POLHYD	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	-2
POLPER	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	-1
POLPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	-1
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	-1
PILPUM	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	-1
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	-1
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	0
SCIFLU	Schoenoplectus fluviatilis	Scirpus fluviatilis; Bolboschoenus fluviatilis	River Club-Rush	4	OBL	-2
SILPER	Silphium perfoliatum	Silphium perfoliatum	Cup-Plant	5	FACW	-1

SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	-1
SYMLAN	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	0
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
ASTPIL	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
URTDIO	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	-1
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	0
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0

TRANSECT STRING

>

QUAD	1
SPECIES	COVER
ASTLAT	4
FALCIL	2
GLEHED	4
PILPUM	2
RUDLAC	15
RUDTRI	60
SOLCAN	4
SYMLAN	8
VIOSOR	3

>

QUAD	2
SPECIES	COVER
ELYVIR	5
EUPRUG	25
GEUCAN	4
HACVIR	15
PARQUI	6
RUDTRI	40

>

QUAD	3
SPECIES	COVER
PILPUM	6
RUDTRI	45
URTDIO	15

>

QUAD	4
SPECIES	COVER

ELYVIR	5
EUPRUG	25
GEUCAN	4
HACVIR	15
PARQUI	6
RUDTRI	45
>	
QUAD	5
SPECIES	COVER
BIDFRO	8
CONSEP	6
ELYVIR	8
EUPSER	8
GLEHED	10
MUHMEX	2
PHAARU	10
PILPUM	2
POLHYD	6
POLPEN	4
POLPER	10
RUDTRI	10
SYMLAN	30
>	
QUAD	6
SPECIES	COVER
ASTLAT	3
CONSEP	10
ELYVIR	5
PHAARU	6
POLHYD	3
RUMCRI	2
SILPER	40
SOLCAN	3
SYMLAN	40
URTDIO	5
VIOSOR	6
>	
QUAD	7
SPECIES	COVER
MUHMEX	10
POLHYD	5

POLPEN	3
RUDLAC	30
RUDTRI	6
SYMLAN	8
URTDIO	10
>	
QUAD	8
SPECIES	COVER
PILPUM	40
POLHYD	20
POLPEN	40
RUDLAC	30
URTDIO	10
>	
QUAD	9
SPECIES	COVER
AMBTRI	5
ASTPIL	5
BIDFRO	6
CONSEP	5
EUPSER	30
GLEHED	5
POLHYD	10
POLPEN	8
POLPER	5
RUDTRI	60
RUMCRI	2
SYMLAN	20
>	
QUAD	10
SPECIES	COVER
EUPSER	5
PHYVIR	30
PILPUM	50
POLHYD	5
SYMLAN	15
>	
QUAD	11
SPECIES	COVER
EUPSER	5
PHYVIR	30

PILPUM	50
POLHYD	75
SYMLAN	15
>	
QUAD	12
SPECIES	COVER
ELYVIR	40
HELTUB	5
PHYVIR	15
RUDTRI	20
SOLCAN	15
SYMLAN	8
>	
QUAD	13
SPECIES	COVER
BIDFRO	8
ELYVIR	4
EUPSER	6
PHYVIR	90
>	
QUAD	14
SPECIES	COVER
BIDCER	5
BIDFRO	10
EUPSER	2
LEEORY	60
PHYVIR	5
POLCOC	2
POLHYD	50
SCIFLU	8
SYMLAN	3
>	
QUAD	15
SPECIES	COVER
BIDCER	4
BIDFRO	10
CINARU	6
ELYVIR	8
EUPSER	10
MUHSCH	30
PHYVIR	3

POLHYD	8
RUDTRI	30
SOLCAN	2
SYMLAN	3
>	
QUAD	16
SPECIES	COVER
BIDFRO	25
CONSEP	6
ELYVIR	5
PHYVIR	2
PILPUM	10
POLCOC	20
POLHYD	15
RUDTRI	45
SYMLAN	2
URTDIO	3
VERURT	10
>	
QUAD	17
SPECIES	COVER
BIDFRO	4
ELYVIR	3
PHYVIR	15
PILPUM	2
POLCOC	3
RUDTRI	65
SYMLAN	2
URTDIO	3
VERURT	10
>	
QUAD	18
SPECIES	COVER
ELYVIR	5
EUPSER	3
GLEHED	5
MUHMEX	5
PHYVIR	20
RUDLAC	5
RUDTRI	80
SOLCAN	10

>
QUAD 19
SPECIES COVER
APOCAN 5
ELYVIR 5
GLEHED 10
RUDLAC 10
RUDTRI 8
SOLCAN 25
SOLGIG 30
>
QUAD 20
SPECIES COVER
APOCAN 3
DAUCAR 3
PHYVIR 5
RUDTRI 100
SILPER 3
SOLCAN 5
SOLGIG 5
SYMLAN 5
>
QUAD 21
SPECIES COVER
BIDFRO 4
ELYVIR 8
PHYVIR 50
POLHYD 2
RUDTRI 5
>
QUAD 22
SPECIES COVER
RUDTRI 6
SYMLAN 100
>

SITE: WCERT
LOCALE: 8B transects 1 & 2
BY: WS, KC, MO, WO
DATE: 9/4/2019

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T01-01	3.2	2.67	7.16	6.53	-0.6	-0.5	5	6
T01-02	1.22	1.1	3.67	3.48	-0.44	-0.3	9	10
T01-03	2.75	2.75	5.5	5.5	-1	-1	4	4
T01-04	1.29	1.29	3.4	3.4	-0.14	-0.14	7	7
T01-05	1.22	1.1	3.67	3.48	-0.44	-0.3	9	10
T01-06	3.4	3.4	7.6	7.6	-0.6	-0.6	5	5
T01-07	2	2	4.9	4.9	-1.17	-1.17	6	6
T01-08	3	3	7.35	7.35	-1.5	-1.5	6	6
T01-09	2.29	2.29	6.05	6.05	-1.29	-1.29	7	7
T01-10	2.83	2.83	6.94	6.94	-1.17	-1.17	6	6
T01-11	2.2	1.57	4.92	4.16	-0.8	-0.71	5	7
T02-01	2.6	2.6	8.22	8.22	-0.8	-0.8	10	10
T02-02	2	1.67	4.47	4.08	-0.2	0	5	6
T02-03	2.43	2.13	6.43	6.01	-0.57	-0.5	7	8
T02-04	2.6	2.6	5.81	5.81	0.4	0.4	5	5
T02-05	3.33	3.33	8.16	8.16	0	0	6	6
AVG	2.4	2.27	5.89	5.73	-0.65	-0.6	6.38	6.81
STD	0.71	0.75	1.61	1.67	0.51	0.53	1.71	1.83

TRANSECT SUMMARY

C	NUMBER
0	9
1	4
2	3
3	5
4	6
5	9
6	0
7	0
8	1
9	0
10	1

0:	23.68%
1 to 3:	31.58%
4 to 6:	39.47%
7 to 10:	5.26%

38	NATIVE SPECIES
42	TOTAL SPECIES
2.95	NATIVE MEAN C
2.67	W/Adventives
18.17	NATIVE FQI
17.28	W/Adventives
-0.55	NATIVE MEAN W
-0.5	W/Adventives

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	38	90.48%	ADVENTIVE	4	9.52%
Tree	0	0.00%	Tree	0	0.00%
Shrub	1	2.38%	Shrub	0	0.00%
Vine	0	0.00%	Vine	0	0.00%
Forb	25	59.52%	Forb	2	4.76%
Grass	10	23.81%	Grass	2	4.76%
Sedge	1	2.38%	Sedge	0	0.00%

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Shrub	1	25	0.9	1.4	1.2
N Forb	84	1517	77.1	86.4	81.7
N Grass	15	153	13.8	8.7	11.2
N Sedge	1	4	0.9	0.2	0.6
N Fern	1	4	0.9	0.2	0.6
A Forb	5	45	4.6	2.6	3.6
A Grass	2	8	1.8	0.5	1.1

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Symphyotrichum lanceolatum	3	FAC	13	373	11.9	21.2	16.6
Persicaria hydropiper	2	OBL	10	167	9.2	9.5	9.3
Monarda fistulosa	4	FACU	2	140	1.8	8	4.9
Rudbeckia triloba	1	FACU	4	130	3.7	7.4	5.5
Bidens cernua	3	OBL	4	130	3.7	7.4	5.5
Bidens frondosa	1	FACW	10	108	9.2	6.2	7.7
Symphyotrichum lateriflorum	4	FACW	5	106	4.6	6	5.3
Solidago canadensis	1	FACU	4	90	3.7	5.1	4.4
Elymus canadensis	4	FACU	1	65	0.9	3.7	2.3
Eupatorium serotinum	0	FAC	4	55	3.7	3.1	3.4
Leersia oryzoides	3	OBL	3	42	2.8	2.4	2.6
Glechoma hederacea	0	FACU	3	41	2.8	2.3	2.5
Helenium autumnale	5	FACW	1	35	0.9	2	1.5
Persicaria pensylvanica	0	FACW	5	31	4.6	1.8	3.2
Salix interior	2	FACW	1	25	0.9	1.4	1.2
Vernonia fasciculata	8	FACW	1	25	0.9	1.4	1.2
Pilea pumila	2	FACW	6	24	5.5	1.4	3.4
Ambrosia trifida	0	FAC	2	18	1.8	1	1.4
Plantago rugelii	0	FAC	1	15	0.9	0.9	0.9
Viola sororia	3	FAC	2	15	1.8	0.9	1.3
Echinochloa crus-galli	0	FACW	2	12	1.8	0.7	1.3
Amaranthus tuberculatus	1	OBL	1	12	0.9	0.7	0.8
Elymus virginicus	3	FACW	3	11	2.8	0.6	1.7
Spartina pectinata	4	FACW	1	10	0.9	0.6	0.7
Pycnanthemum virginianum	5	FACW	1	8	0.9	0.5	0.7
Solidago gigantea	4	FACW	1	8	0.9	0.5	0.7
Physostegia virginiana	4	FACW	1	6	0.9	0.3	0.6
Boehmeria cylindrica	5	OBL	1	6	0.9	0.3	0.6
Acalypha rhomboidea	0	FACU	2	5	1.8	0.3	1.1
Phalaris arundinacea	0	FACW	1	5	0.9	0.3	0.6
Cinna arundinacea	5	FACW	1	4	0.9	0.2	0.6
Eutrochium maculatum	5	OBL	1	4	0.9	0.2	0.6
Carex lacustris	5	OBL	1	4	0.9	0.2	0.6
Rumex crispus	0	FAC	2	4	1.8	0.2	1
Polypodium virginianum	10	UPL	1	4	0.9	0.2	0.6
Poa pratensis	0	FAC	1	3	0.9	0.2	0.5
Sinapis arvensis	0	UPL	1	3	0.9	0.2	0.5
Oxalis stricta	0	FACU	1	3	0.9	0.2	0.5
Muhlenbergia mexicana	5	FACW	1	3	0.9	0.2	0.5

Panicum dichotomiflorum	0	FACW	1	2	0.9	0.1	0.5
Leersia virginica	5	FACW	1	2	0.9	0.1	0.5
Andropogon gerardii	5	FAC	1	2	0.9	0.1	0.5
			109	1756			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
ACARHO	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	1
ACNALT	Amaranthus tuberculatus	Acnida altissima	Rough-Fruit Amaranth	1	OBL	-2
AMBTRI	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	0
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
BIDCER	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	-2
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	-1
BOECYL	Boehmeria cylindrica	Boehmeria cylindrica drummondiana	Small-Spike False Nettle	5	OBL	-2
CXLACU	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	-2
CINARU	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	-1
ECHCRU	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	-1
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	1
ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
EUPSER	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	0
EUPMAC	Eutrochium maculatum	Eupatorium maculatum	Spotted Trumpetweed	5	OBL	-2
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
HELAUT	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	-1
LEEORY	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	-2
LEEVIR	Leersia virginica	Leersia virginica	White Grass	5	FACW	-1
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
MUHMEX	Muhlenbergia mexicana	Muhlenbergia mexicana	Mexican Muhly	5	FACW	-1
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
PANDIC	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	-1
POLHYD	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	-2
POLPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	-1
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1
PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	-1
PILPUM	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	-1
PLARUG	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	0
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	0
POLVIG	Polypodium virginianum	Polypodium virginianum	Common Polypody	10	UPL	2
PYCVIR	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	-1
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	0
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	-1

BRAKAB	Sinapis arvensis	Brassica kaber	Charlock	0	UPL	2
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	-1
SPAPEC	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	-1
ASTSIM	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	0
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1
VERFAS	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	-1
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0

TRANSECT STRING

>

QUAD	1
SPECIES	COVER
ASTSIM	4
CINARU	4
EUPMAC	4
PILPUM	8
POAPRA	3
RUDTRI	80

>

QUAD	2
SPECIES	COVER
ACARHO	3
ASTSIM	70
ELYVIR	5
EUPSER	12
GLEHED	25
PANDIC	2
PILPUM	5
POLHYD	8
POLPEN	4
RUDTRI	2

>

QUAD	3
SPECIES	COVER
ASTSIM	90
PHYVIR	6
PILPUM	3
POLHYD	5

>

QUAD	4
SPECIES	COVER
ACARHO	2
ASTSIM	90

BIDFRO	8
BOECYL	6
BRAKAB	3
EUPSER	2
POLPEN	2
>	
QUAD	5
SPECIES	COVER
ASTSIM	30
BIDFRO	35
EUPSER	6
GLEHED	12
OXASTR	3
PILPUM	4
PLARUG	15
POLHYD	4
POLPEN	2
VIOSOR	5
>	
QUAD	6
SPECIES	COVER
ASTLAT	70
ASTSIM	2
LEEVIR	2
PILPUM	2
VIOSOR	10
>	
QUAD	7
SPECIES	COVER
AMBTRI	10
ASTSIM	12
BIDCER	70
BIDFRO	8
LEEORY	5
POLHYD	5
>	
QUAD	8
SPECIES	COVER
BIDCER	8
BIDFRO	4
CXLACU	4
PILPUM	2
POLHYD	80
PYCVIR	8
>	

QUAD	9
SPECIES	COVER
ASTLAT	15
ASTSIM	8
BIDCER	50
BIDFRO	20
ECHCRU	8
LEEORY	2
POLHYD	10
>	
QUAD	10
SPECIES	COVER
ACNALT	12
ASTSIM	15
BIDFRO	20
POLHYD	15
SALINT	25
VERFAS	25
>	
QUAD	11
SPECIES	COVER
ASTSIM	15
BIDFRO	5
EUPSER	35
HELAUT	35
PHAARU	5
POLHYD	15
RUMCRI	2
>	
QUAD	12
SPECIES	COVER
AMBTRI	8
ASTSIM	30
BIDCER	2
BIDFRO	4
ECHCRU	4
LEEORY	35
POLHYD	20
POLPEN	3
POLVIG	4
SPAPEC	10
>	
QUAD	13
SPECIES	COVER
BIDFRO	2

ELYCAN	65
GLEHED	4
POLPEN	20
SOLCAN	5
SOLGIG	8
>	
QUAD	14
SPECIES	COVER
ASTLAT	10
BIDFRO	2
ELYVIR	3
MUHMEX	3
POLHYD	5
RUDTRI	40
RUMCRI	2
SOLCAN	50
>	
QUAD	15
SPECIES	COVER
ASTLAT	3
ASTSIM	3
MONFIS	80
RUDTRI	8
SOLCAN	5
>	
QUAD	16
SPECIES	COVER
ANDGER	2
ASTLAT	8
ASTSIM	4
ELYVIR	3
MONFIS	60
SOLCAN	30

SITE: WCERT
LOCALE: Reach 8B Transects 3-8
BY: WS, MO, KC, WO
DATE 9/4/2019

TRANSECT QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS
T04-01	2.14	1.25	5.67	4.33	0.71	0.75	7	12
T04-02	2	1.43	4.47	3.78	0.4	0.43	5	7
T04-03	2.2	1.38	4.92	3.89	0.8	0.88	5	8
T04-04	2.5	1.43	5	3.78	0.25	0.57	4	7
T04-05	2.57	2.25	6.8	6.36	0.57	0.5	7	8
T04-06	3.67	2.75	6.35	5.5	1	0.75	3	4
T04-07	3	2.63	7.94	7.42	0.71	0.63	7	8
T04-08	3.75	3	7.5	6.71	0.75	0.8	4	5
T04-09	4.5	4.5	6.36	6.36	1	1	2	2
T04-10	2.57	2	6.8	6	0	0.11	7	9
T04-11	2.5	2.5	7.91	7.91	0.4	0.4	10	10
T04-12	2.25	1.29	4.5	3.4	0.75	0.71	4	7
T04-13	2.67	1.78	6.53	5.33	0.67	0.89	6	9
T04-14	2.83	1.89	6.94	5.67	0.33	0.67	6	9
T04-15	3.17	2.38	7.76	6.72	0.67	0.75	6	8
T04-16	2.67	2.29	6.53	6.05	0.67	0.57	6	7
T04-17	2	1.5	6	5.2	0.11	0.33	9	12
T04-18	1.9	1.58	6.01	5.48	0.3	0.25	10	12
T04-19	2.43	1.55	6.43	5.13	-0.14	0.09	7	11
T04-20	2.8	2.8	6.26	6.26	0.6	0.6	5	5
T04-21	2.6	2.6	5.81	5.81	0.8	0.8	5	5
T04-22	3	1.67	6.71	5	0.2	0.56	5	9
T04-23	3	2.63	7.94	7.42	0.86	0.63	7	8
T04-24	5	2.5	10	7.07	1.5	1.25	4	8
T04-25	3.14	2.44	8.32	7.33	1	1	7	9
T04-26	2.6	2.17	5.81	5.31	0.8	0.67	5	6
T04-27	3	2.14	6.71	5.67	0.8	0.71	5	7
T04-28	4	3.43	9.8	9.07	1.17	1.14	6	7
T04-29	2.29	1.45	6.05	4.82	0.43	0.55	7	11
T04-30	2.38	2.11	6.72	6.33	0.63	0.56	8	9
T04-31	4	2.67	9.8	8	1.33	1.22	6	9
T05-01	3	2.29	10.82	9.46	-0.31	0.06	13	17
T05-02	3.33	2.86	8.16	7.56	-0.5	-0.43	6	7
T05-03	3.8	3.17	12.02	10.97	-0.3	-0.25	10	12
T05-04	2.9	2.07	9.17	7.75	-1	-0.79	10	14
T05-05	2.14	1.88	5.67	5.3	-0.57	-0.63	7	8
T05-06	4.67	4.67	8.08	8.08	-0.67	-0.67	3	3

T06-01	2.89	2.17	8.67	7.51	0	0	9	12
T06-02	3	2.4	6	5.37	-0.25	-0.4	4	5
T06-03	2.18	1.71	7.24	6.41	-0.18	0.14	11	14
T06-04	2.75	2.75	9.53	9.53	-0.08	-0.08	12	12
T06-05	1.5	1	3.67	3	0.67	0.89	6	9
T06-06	2	1.56	5.29	4.67	0.14	0.22	7	9
T07-01	1.63	1.18	4.6	3.92	0.63	0.73	8	11
T07-02	3.5	3.06	13.1	12.25	0	0.06	14	16
T07-03	2.57	2.12	9.62	8.73	0.29	0.29	14	17
T07-04	3.14	2.93	11.76	11.36	0.36	0.47	14	15
T07-05	4	4	14.97	14.97	0.14	0.14	14	14
T07-06	3.8	3.45	12.02	11.46	0.2	0.18	10	11
T07-07	3.4	3	13.17	12.37	0	0	15	17
T08-01	2	1.11	4.47	3.33	0.6	0.89	5	9
T08-02	2.53	2	9.81	8.72	0.13	0.37	15	19
T08-03	0	0	0	0	-0.33	0.43	3	7
T08-04	1.13	0.82	3.18	2.71	0.75	0.82	8	11
T08-05	1.5	1.2	3	2.68	0.5	0.8	4	5
T3-01	2.75	1.38	5.5	3.89	-0.25	0.25	4	8
T3-02	3.86	3	10.21	9	0.71	0.67	7	9
T3-03	3.13	2.5	8.84	7.91	0.25	0.3	8	10
T3-04	2.83	2.43	6.94	6.43	-0.33	-0.29	6	7
T3-05	3.25	1.86	6.5	4.91	0.5	0.43	4	7
T3-06	2.38	2.11	6.72	6.33	1.25	1.33	8	9
T3-07	3.88	2.58	10.96	8.95	0.63	0.83	8	12
T3-08	3	1.5	6	4.24	1.25	1.25	4	8
T3-09	2.38	1.73	6.72	5.73	0.75	1	8	11
T3-10	3.3	2.36	10.44	8.82	0.4	0.57	10	14
T3-11	4	2.8	10.58	8.85	0.14	0.4	7	10
T3-12	4.29	3	11.34	9.49	0.43	0.6	7	10
T3-13	3.14	3.14	8.32	8.32	0.43	0.43	7	7
T3-14	3.63	2.23	10.25	8.04	0	0.23	8	13
T3-15	4	3.56	11.31	10.67	0.13	0.11	8	9
T3-16	3.42	3.15	11.84	11.37	-0.67	-0.69	12	13
T3-17	4.6	3.29	14.55	12.29	0	0.07	10	14
T3-18	2.33	1.75	5.72	4.95	0.67	0.5	6	8
T3-19	3.6	2.57	8.05	6.8	1	1	5	7
T3-20	2.75	2	7.78	6.63	1	1	8	11
T3-21	4.5	3	11.02	9	0.67	0.44	6	9
T3-22	4.11	3.7	12.33	11.7	0.33	0.4	9	10
T3-23	2	1.33	4.9	4	0.17	0	6	9
T3-24	3.45	2.92	11.46	10.54	0.18	0.23	11	13
T3-25	2	1.33	4.9	4	-0.33	-0.22	6	9
T3-26	2.6	1.44	5.81	4.33	1	0.56	5	9
T3-27	2.6	2.17	8.22	7.51	0.2	0.17	10	12

T3-28	4.29	3.33	11.34	10	1	0.89	7	9
T3-29	4.43	3.1	11.72	9.8	0.86	0.5	7	10
T3-30	2.83	2.13	6.94	6.01	0.83	0.75	6	8
T3-31	2.83	2.83	6.94	6.94	1	1	6	6
T3-32	1.67	1.25	5	4.33	0.11	0.25	9	12
T3-33	3.3	2.2	10.44	8.52	0	0	10	15
T3-34	2.5	1.79	7.91	6.68	-0.5	-0.29	10	14
T3-35	3.17	2.38	7.76	6.72	0.83	1	6	8
T8-05	2.2	1.38	4.92	3.89	-0.4	-0.63	5	8
T8-06	0.86	0.86	2.27	2.27	0.43	0.43	7	7
T8-07	2.86	2.5	7.56	7.07	0.43	0.63	7	8
T8-08	1.14	0.89	3.02	2.67	0.29	0.22	7	9
AVG	2.9	2.24	7.74	6.82	0.38	0.43	7.36	9.62
STD	0.9	0.83	2.83	2.7	0.5	0.47	2.86	3.22

TRANSECT SUMMARY

C	NUMBER				
0	21			109	NATIVE SPECIES
1	10			140	TOTAL SPECIES
2	9			3.3	NATIVE MEAN C
3	17	0:	19.27%	2.57	W/Adventives
4	21	1 to 3:	33.03%	34.48	NATIVE FQI
5	17	4 to 6:	35.78%	30.43	W/Adventives
6	1	7 to 10:	11.93%	-0.12	NATIVE MEAN W
7	4			0.09	W/Adventives
8	5				
9	2				
10	2				

PHYSIOGNOMIC SUMMARY

PHYSIOGNOMY

NATIVE	109	77.86%	ADVENTIVE	31	22.14%
Tree	0	0.00%	Tree	1	0.71%
Shrub	4	2.86%	Shrub	4	2.86%
Vine	3	2.14%	Vine	0	0.00%
Forb	73	52.14%	Forb	15	10.71%
Grass	18	12.86%	Grass	11	7.86%
Sedge	11	7.86%	Sedge	0	0.00%
Fern	0	0.00%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOG	FRQ	COV	RFRQ	RCOV	RIV
N Shrub	5	23	0.6	0.2	0.4
N Vine	9	79	1	0.8	0.9
N Forb	454	4244.3	50.2	43.4	46.8
N Grass	177	3238	19.6	33.1	26.3
N Sedge	47	460	5.2	4.7	5
A Tree	1	2	0.1	.	0.1
A Shrub	7	34	0.8	0.3	0.6
A Forb	93	477	10.3	4.9	7.6
A Grass	111	1220	12.3	12.5	12.4

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME (NWPL/MOHLENBROCK)	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Solidago canadensis	1	FACU	66	1274.3	7.3	13	10.2
Sorghastrum nutans	5	FACU	51	1130	5.6	11.6	8.6
Andropogon gerardii	5	FAC	31	1038	3.4	10.6	7
Poa pratensis	0	FAC	30	411	3.3	4.2	3.8
Elymus virginicus	3	FACW	31	361	3.4	3.7	3.6
Setaria pumila	0	FAC	37	339	4.1	3.5	3.8
Monarda fistulosa	4	FACU	39	283	4.3	2.9	3.6
Agrostis gigantea	0	FACW	16	256	1.8	2.6	2.2
Rudbeckia triloba	1	FACU	10	214	1.1	2.2	1.6
Ambrosia artemisiifolia	0	FACU	26	212	2.9	2.2	2.5
Ratibida pinnata	4	UPL	32	203	3.5	2.1	2.8
Schizachyrium scoparium	5	FACU	11	185	1.2	1.9	1.6
Euthamia graminifolia	4	FACW	12	178	1.3	1.8	1.6
Pycnanthemum virginianum	5	FACW	9	166	1	1.7	1.3

Elymus canadensis	4	FACU	15	163	1.7	1.7	1.7
Carex vulpinoidea	2	FACW	9	161	1	1.6	1.3
Trifolium hybridum	0	FACU	27	146	3	1.5	2.2
Ambrosia trifida	0	FAC	14	129	1.5	1.3	1.4
Helianthus tuberosus	3	FACU	3	120	0.3	1.2	0.8
Melilotus albus	0	UPL	11	114	1.2	1.2	1.2
Symphyotrichum pilosum	0	FACU	35	110	3.9	1.1	2.5
Verbesina alternifolia	5	FACW	7	98	0.8	1	0.9
Bidens frondosa	1	FACW	4	97	0.4	1	0.7
Solidago rigida	3	FACU	12	95	1.3	1	1.1
Physostegia virginiana	4	FACW	4	90	0.4	0.9	0.7
Calamagrostis canadensis	6	OBL	1	80	0.1	0.8	0.5
Symphyotrichum lanceolatum	3	FAC	14	74	1.5	0.8	1.2
Poa compressa	0	FACU	7	73	0.8	0.7	0.8
Carex blanda	1	FAC	7	70	0.8	0.7	0.7
Panicum capillare	0	FAC	13	67	1.4	0.7	1.1
Panicum virgatum	3	FAC	3	65	0.3	0.7	0.5
Juncus dudleyi	2	FACW	10	64	1.1	0.7	0.9
Daucus carota	0	UPL	25	62	2.8	0.6	1.7
Eupatorium altissimum	0	UPL	5	62	0.6	0.6	0.6
Verbena hastata	4	FACW	9	60	1	0.6	0.8
Eriophorum virginicum	10	OBL	11	60	1.2	0.6	0.9
Cinna arundinacea	5	FACW	4	55	0.4	0.6	0.5
Lysimachia nummularia	0	FACW	2	55	0.2	0.6	0.4
Rudbeckia hirta	1	FACU	14	52	1.5	0.5	1
Parthenocissus quinquefolia	4	FACU	4	49	0.4	0.5	0.5
Scirpus atrovirens	4	OBL	3	48	0.3	0.5	0.4
Verbena urticifolia	2	FAC	7	46	0.8	0.5	0.6
Solidago gigantea	4	FACW	4	46	0.4	0.5	0.5
Sporobolus compositus	0	UPL	2	38	0.2	0.4	0.3
Erigeron annuus	0	FACU	8	34	0.9	0.3	0.6
Carex granularis	3	FACW	5	33	0.6	0.3	0.4
Phalaris arundinacea	0	FACW	7	33	0.8	0.3	0.6
Bromus inermis	0	FACU	4	31	0.4	0.3	0.4
Cyperus esculentus	0	FACW	4	28	0.4	0.3	0.4
Geum canadense	1	FAC	7	28	0.8	0.3	0.5
Lactuca floridana	8	FACU	4	28	0.4	0.3	0.4
Eupatorium serotinum	0	FAC	5	27	0.6	0.3	0.4
Cryptotaenia canadensis	4	FAC	4	27	0.4	0.3	0.4
Eriochloa villosa	0	UPL	5	25	0.6	0.3	0.4
Echinacea purpurea	10	UPL	6	25	0.7	0.3	0.5
Prunella vulgaris ssp. lanceolata	1	FAC	5	24	0.6	0.2	0.4
Toxicodendron radicans	2	FAC	4	24	0.4	0.2	0.3
Muhlenbergia schreberi	0	FAC	2	23	0.2	0.2	0.2
Carex tribuloides	7	OBL	3	21	0.3	0.2	0.3

Echinochloa crus-galli	0	FACW	4	21	0.4	0.2	0.3
Bidens cernua	3	OBL	5	21	0.6	0.2	0.4
Trifolium repens	0	FACU	5	20	0.6	0.2	0.4
Heliopsis helianthoides	7	FACU	3	20	0.3	0.2	0.3
Lycopus americanus	4	OBL	2	20	0.2	0.2	0.2
Viburnum dentatum	0	FAC	2	20	0.2	0.2	0.2
Sanicula odorata	3	FAC	1	20	0.1	0.2	0.2
Cirsium arvense	0	FACU	7	18	0.8	0.2	0.5
Campanulastrum americanum	4	FAC	5	18	0.6	0.2	0.4
Coreopsis tripteris	5	FAC	2	18	0.2	0.2	0.2
Persicaria pensylvanica	0	FACW	5	17	0.6	0.2	0.4
Glechoma hederacea	0	FACU	2	17	0.2	0.2	0.2
Elymus villosus	5	FACU	4	17	0.4	0.2	0.3
Rudbeckia subtomentosa	8	FACU	2	17	0.2	0.2	0.2
Symphyotrichum drummondii	3	UPL	2	16	0.2	0.2	0.2
Helenium autumnale	5	FACW	3	14	0.3	0.1	0.2
Plantago rugelii	0	FAC	3	13	0.3	0.1	0.2
Symphyotrichum novae-angliae	3	FACW	3	12	0.3	0.1	0.2
Viola sororia	3	FAC	4	12	0.4	0.1	0.3
Agrimonia gryposepala	2	FACU	2	11	0.2	0.1	0.2
Ageratina altissima	3	FACU	2	11	0.2	0.1	0.2
Lactuca canadensis	1	FACU	3	11	0.3	0.1	0.2
Corylus americana	5	FACU	2	11	0.2	0.1	0.2
Carex bebbii	8	OBL	2	11	0.2	0.1	0.2
Hordeum jubatum	0	FAC	2	10	0.2	0.1	0.2
Sonchus arvensis	0	FACU	2	10	0.2	0.1	0.2
Carex cristatella	4	FACW	1	10	0.1	0.1	0.1
Leersia oryzoides	3	OBL	1	10	0.1	0.1	0.1
Carex grisea	3	FAC	1	10	0.1	0.1	0.1
Desmodium canadense	4	FACU	2	9	0.2	0.1	0.2
Rhamnus cathartica	0	FAC	3	8	0.3	0.1	0.2
Persicaria virginiana	4	FAC	1	8	0.1	0.1	0.1
Rudbeckia laciniata	4	FACW	1	8	0.1	0.1	0.1
Scirpus pendulus	2	OBL	1	8	0.1	0.1	0.1
Setaria faberi	0	FACU	1	7	0.1	0.1	0.1
Trifolium pratense	0	FACU	2	7	0.2	0.1	0.1
Medicago lupulina	0	FACU	2	7	0.2	0.1	0.1
Achillea millefolium	0	FACU	2	6	0.2	0.1	0.1
Juncus torreyi	2	FACW	1	6	0.1	0.1	0.1
Eutrochium maculatum	5	OBL	1	6	0.1	0.1	0.1
Dasistoma macrophylla	8	FACU	1	6	0.1	0.1	0.1
Smilax lasioneuron	5	UPL	1	6	0.1	0.1	0.1
Spartina pectinata	4	FACW	1	6	0.1	0.1	0.1
Plantago major	0	FAC	1	5	0.1	0.1	0.1
Pycnanthemum tenuifolium	7	FAC	1	5	0.1	0.1	0.1

Asclepias verticillata	1	FACU	1	5	0.1	0.1	0.1
Juncus tenuis	0	FAC	1	5	0.1	0.1	0.1
Epilobium coloratum	3	OBL	1	5	0.1	0.1	0.1
Silphium perfoliatum	5	FACW	1	5	0.1	0.1	0.1
Pilea pumila	2	FACW	2	5	0.2	0.1	0.1
Taraxacum officinale	0	FACU	2	5	0.2	0.1	0.1
Polygala verticillata	7	UPL	1	5	0.1	0.1	0.1
Rubus occidentalis	0	UPL	1	5	0.1	0.1	0.1
Blephilia hirsuta	5	FACU	1	5	0.1	0.1	0.1
Potentilla norvegica	0	FAC	1	5	0.1	0.1	0.1
Schedonorus pratensis	0	FACU	1	5	0.1	0.1	0.1
Lobelia siphilitica	4	OBL	1	5	0.1	0.1	0.1
Galium trifidum	9	FACW	1	4	0.1	.	0.1
Oxalis stricta	0	FACU	2	4	0.2	.	0.1
Cornus racemosa	1	FAC	1	4	0.1	.	0.1
Asclepias incarnata	3	OBL	1	4	0.1	.	0.1
Erigeron canadensis	0	FACU	1	3	0.1	.	0.1
Silphium terebinthinaceum	5	FAC	1	3	0.1	.	0.1
Zizia aurea	5	FAC	1	3	0.1	.	0.1
Baptisia alba var. macrophylla	8	FACU	1	3	0.1	.	0.1
Dichanthelium acuminatum	4	FAC	1	3	0.1	.	0.1
Lonicera maackii	0	UPL	1	3	0.1	.	0.1
Viburnum lentago	4	FAC	1	3	0.1	.	0.1
Rumex crispus	0	FAC	2	3	0.2	.	0.1
Lonicera tatarica	0	FACU	1	3	0.1	.	0.1
Leonurus cardiaca	0	UPL	1	2	0.1	.	0.1
Panicum dichotomiflorum	0	FACW	1	2	0.1	.	0.1
Agalinis tenuifolia	3	FACW	1	2	0.1	.	0.1
Symphyotrichum lateriflorum	4	FACW	1	2	0.1	.	0.1
Acalypha rhomboidea	0	FACU	1	2	0.1	.	0.1
Persicaria hydropiper	2	OBL	1	2	0.1	.	0.1
Robinia pseudoacacia	0	FACU	1	2	0.1	.	0.1
Elymus repens	0	FACU	1	2	0.1	.	0.1
Eragrostis hypnoides	5	OBL	1	2	0.1	.	0.1
Senecio hieraciifolius	0	FAC	1	1	0.1	.	0.1
Symphyotrichum laeve	9	FACU	1	1	0.1	.	0.1
			904	9777.3			

TRANSECT INVENTORY

Acronym	Scientific Name (NWPL/Mohlenbrock)	Scientific Name Synonym (Swink & Wilhelm)	Common Name (NWPL/Mohlenbrock)	C	WETNESS	WETNESS VALUE
ACARHO	Acalypha rhomboidea	Acalypha rhomboidea	Common Three-Seed-Mercury	0	FACU	1
ACHMIL	Achillea millefolium	ACHILLEA MILLEFOLIUM	Common Yarrow	0	FACU	1

AGATEN	Agalinis tenuifolia	Agalinis tenuifolia	Slender-Leaf False Foxglove	3	FACW	-1
EUPRUG	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	1
AGRGRY	Agrimonia gryposepala	Agrimonia gryposepala	Tall Hairy Grooveburr	2	FACU	1
AGRALB	Agrostis gigantea	AGROSTIS ALBA	Black Bent	0	FACW	-1
AMBART	Ambrosia artemisiifolia	Ambrosia artemisiifolia elatior	Annual Ragweed	0	FACU	1
AMBTRI	Ambrosia trifida	Ambrosia trifida	Great Ragweed	0	FAC	0
ANDGER	Andropogon gerardii	Andropogon gerardii	Big Bluestem	5	FAC	0
ASCINC	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	-2
ASCVER	Asclepias verticillata	Asclepias verticillata	Whorled Milkweed	1	FACU	1
BAPALB	Baptisia alba var. macrophylla	Baptisia leucantha; Baptisia lactea	White Wild Indigo	8	FACU	1
BIDCER	Bidens cernua	Bidens cernua	Nodding Burr-Marigold	3	OBL	-2
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	-1
BLEHIR	Blephilia hirsuta	Blephilia hirsuta	Hairy Pagoda-Plant	5	FACU	1
BROINE	Bromus inermis	BROMUS INERMIS	Smooth Brome	0	FACU	1
CALCAN	Calamagrostis canadensis	Calamagrostis canadensis	Bluejoint	6	OBL	-2
CAMAME	Campanulastrum americanum	Campanula americana	American-Bellflower	4	FAC	0
CXBEBB	Carex bebbii	Carex bebbii	Bebb's Sedge	8	OBL	-2
CXBLAN	Carex blanda	Carex blanda	Eastern Woodland Sedge	1	FAC	0
CXCRIS	Carex cristatella	Carex cristatella	Crested Sedge	4	FACW	-1
CXGRAN	Carex granularis	Carex granularis	Limestone-Meadow Sedge	3	FACW	-1
CXGRIS	Carex grisea	Carex grisea	Inflated Narrow-Leaf Sedge	3	FAC	0
CXTRIB	Carex tribuloides	Carex tribuloides	Blunt Broom Sedge	7	OBL	-2
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	-1
CINARU	Cinna arundinacea	Cinna arundinacea	Sweet Wood-Reed	5	FACW	-1
CIRARV	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	1
CORTRI	Coreopsis tripteris	Coreopsis tripteris	Tall Tickseed	5	FAC	0
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	0
CORAME	Corylus americana	Corylus americana	American Hazelnut	5	FACU	1
CRYCAN	Cryptotaenia canadensis	Cryptotaenia canadensis	Canadian Honewort	4	FAC	0
CYPESC	Cyperus esculentus	Cyperus esculentus	Chufa	0	FACW	-1
DASMAC	Dasistoma macrophylla	Seymeria macrophylla	Mullein-Foxglove	8	FACU	1
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	2
DESCAA	Desmodium canadense	Desmodium canadense	Showy Tick-Trefoil	4	FACU	1
DICACU	Dichanthelium acuminatum	Panicum implicatum; Panicum auburne; Panicum lindheimeri; Panicum praecocius; Panicum subvillosum; Panicum villosissimum; Panicum villosissimum pseudopubescens	Tapered Rosette Grass	4	FAC	0
ECHPUR	Echinacea purpurea	Echinacea purpurea	Purple Coneflower	10	UPL	2
ECHCRU	Echinochloa crus-galli	Echinochloa crusgalli	Large Barnyard Grass	0	FACW	-1
ELYCAN	Elymus canadensis	Elymus canadensis	Nodding Wild Rye	4	FACU	1
AGRREP	Elymus repens	AGROPYRON REPENS; Elytrigia repens	Creeping Wild Rye	0	FACU	1
ELYVIL	Elymus villosus	Elymus villosus	Hairy Wild Rye	5	FACU	1

ELYVIR	Elymus virginicus	Elymus virginicus	Virginia Wild Rye	3	FACW	-1
EPICOL	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	-2
ERAHYP	Eragrostis hypnoides	Eragrostis hypnoides	Teal Love Grass	5	OBL	-2
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	1
CONCAN	Erigeron canadensis	Conyza canadensis	Canadian Horseweed	0	FACU	1
ERIVIL	Eriochloa villosa	ERIOCHLOA VILLOSA	Chinese Cup Grass	0	UPL	2
ERIVIG	Eriophorum virginicum	Eriophorum virginicum	Tawny Cotton-Grass	10	OBL	-2
EUPALT	Eupatorium altissimum	Eupatorium altissimum	Tall Boneset	0	UPL	2
EUPSER	Eupatorium serotinum	Eupatorium serotinum	Late-Flowering Thoroughwort	0	FAC	0
SOLGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	-1
EUPMAC	Eutrochium maculatum	Eupatorium maculatum	Spotted Trumpetweed	5	OBL	-2
GALTRD	Galium trifidum	Galium trifidum	Three-Petal Bedstraw	9	FACW	-1
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	0
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	1
HELAUT	Helenium autumnale	Helenium autumnale var. canaliculatum	Fall Sneezeweed	5	FACW	-1
HELTUB	Helianthus tuberosus	Helianthus tuberosus	Jerusalem-Artichoke	3	FACU	1
HELHEL	Heliopsis helianthoides	Heliopsis helianthoides	Smooth Oxeye	7	FACU	1
HORJUB	Hordeum jubatum	HORDEUM JUBATUM	Fox-Tail Barley	0	FAC	0
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	-1
JUNTEN	Juncus tenuis	Juncus tenuis	Lesser Poverty Rush	0	FAC	0
JUNTOR	Juncus torreyi	Juncus torreyi	Torrey's Rush	2	FACW	-1
LACCAN	Lactuca canadensis	Lactuca canadensis	Canadian Blue Lettuce	1	FACU	1
LACFLO	Lactuca floridana	Lactuca floridana	Woodland Lettuce	8	FACU	1
LEEORY	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	-2
LEOCAR	Leonurus cardiaca	LEONURUS CARDIACA	Motherwort	0	UPL	2
LOBSIP	Lobelia siphilitica	Lobelia siphilitica	Great Blue Lobelia	4	OBL	-2
LONMAA	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	2
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	1
LYCAME	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	-2
LYSNUM	Lysimachia nummularia	LYSIMACHIA NUMMULARIA	Creeping-Jenny	0	FACW	-1
MEDLUP	Medicago lupulina	MEDICAGO LUPULINA	Black Medick	0	FACU	1
MELALB	Melilotus albus	MELILOTUS ALBA	White Sweet-Clover	0	UPL	2
MONFIS	Monarda fistulosa	Monarda fistulosa	Oswego-Tea	4	FACU	1
MUHSCH	Muhlenbergia schreberi	Muhlenbergia schreberi	Nimblewill	0	FAC	0
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	1
PANCAP	Panicum capillare	Panicum capillare	Common Panic Grass	0	FAC	0
PANDIC	Panicum dichotomiflorum	Panicum dichotomiflorum	Fall Panic Grass	0	FACW	-1
PANVIR	Panicum virgatum	Panicum virgatum	Wand Panic Grass	3	FAC	0
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	1
POLHYD	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	-2
POLPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	-1
POLVIR	Persicaria virginiana	Polygonum virginianum	Jumpseed	4	FAC	0
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	-1

PHYVIR	Physostegia virginiana	Physostegia virginiana	Obedient-Plant	4	FACW	-1
PILPUM	Pilea pumila	Pilea pumila	Canadian Clearweed	2	FACW	-1
PLAMAJ	Plantago major	PLANTAGO MAJOR	Great Plantain	0	FAC	0
PLARUG	Plantago rugelii	Plantago rugelii	Black-Seed Plantain	0	FAC	0
POACOM	Poa compressa	POA COMPRESSA	Flat-Stem Blue Grass	0	FACU	1
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	0
POLVER	Polygala verticillata	Polygala verticillata	Whorled Milkwort	7	UPL	2
POTNOR	Potentilla norvegica	Potentilla norvegica	Norwegian Cinquefoil	0	FAC	0
PRUVULL	Prunella vulgaris ssp. lanceolata	Prunella vulgaris lanceolata	Common Selfheal	1	FAC	0
PYCTEN	Pycnanthemum tenuifolium	Pycnanthemum tenuifolium	Narrow-Leaf Mountain-Mint	7	FAC	0
PYCVIR	Pycnanthemum virginianum	Pycnanthemum virginianum	Virginia Mountain-Mint	5	FACW	-1
RATPIN	Ratibida pinnata	Ratibida pinnata	Yellow Coneflower	4	UPL	2
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	0
ROBPSE	Robinia pseudoacacia	ROBINIA PSEUDOACACIA	Black Locust	0	FACU	1
RUBOCC	Rubus occidentalis	Rubus occidentalis	Black Raspberry	0	UPL	2
RUDHIR	Rudbeckia hirta	Rudbeckia hirta var. pulcherrima	Black-Eyed-Susan	1	FACU	1
RUDLAC	Rudbeckia laciniata	Rudbeckia laciniata	Green-Head Coneflower	4	FACW	-1
RUDSUB	Rudbeckia subtomentosa	Rudbeckia subtomentosa	Sweet Coneflower	8	FACU	1
RUDTRI	Rudbeckia triloba	Rudbeckia triloba	Brown-Eyed-Susan	1	FACU	1
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	0
SANODO	Sanicula odorata	Sanicula gregaria	Clustered Black-Snakeroot	3	FAC	0
FESELA	Schedonorus pratensis	FESTUCA ELATIOR	Meadow False Rye Grass	0	FACU	1
SCHSCO	Schizachyrium scoparium	Andropogon scoparius	Little False Bluestem	5	FACU	1
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	-2
SCIPEN	Scirpus pendulus	Scirpus pendulus	Rufous Bulrush	2	OBL	-2
EREHIE	Senecio hieraciifolius	Erechtites hieracifolia	American Burnweed	0	FAC	0
SETFAB	Setaria faberi	SETARIA FABERI	Japanese Bristle Grass	0	FACU	1
SETPUM	Setaria pumila	SETARIA GLAUCA	Yellow Bristle Grass	0	FAC	0
SILPER	Silphium perfoliatum	Silphium perfoliatum	Cup-Plant	5	FACW	-1
SILTER	Silphium terebinthinaceum	Silphium terebinthinaceum	Prairie Dock	5	FAC	0
SMILAS	Smilax lasioneuron	Smilax lasioneura	Common Carrion Flower	5	UPL	2
SOLCAN	Solidago canadensis	Solidago canadensis	Canadian Goldenrod	1	FACU	1
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	-1
SOLRIG	Solidago rigida	Oligoneuron rigidum	Hard-Leaf Flat-Top-Goldenrod	3	FACU	1
SONARV	Sonchus arvensis	SONCHUS ARVENSIS	Field Sow-Thistle	0	FACU	1
SORNUT	Sorghastrum nutans	Sorghastrum nutans	Yellow Indian Grass	5	FACU	1
SPAPEC	Spartina pectinata	Spartina pectinata	Freshwater Cord Grass	4	FACW	-1
SPOASP	Sporobolus compositus	SPOROBOLUS ASPER	Head-Like Dropseed	0	UPL	2
ASTSAGD	Symphyotrichum drummondii	Aster sagittifolius drummondii	Drummond's Aster	3	UPL	2
ASTLAE	Symphyotrichum laeve	Aster laevis	Smooth Blue American-Aster	9	FACU	1
ASTSIM	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	0
ASTLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	-1

ASTNOV	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	-1
ASTPIL	Symphyotrichum pilosum	Aster pilosus	White Oldfield American-Aster	0	FACU	1
TAROFF	Taraxacum officinale	TARAXACUM OFFICINALE	Common Dandelion	0	FACU	1
TOXRAD	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	0
TRIHYB	Trifolium hybridum	TRIFOLIUM HYBRIDUM	Alsike Clover	0	FACU	1
TRIPRA	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	1
TRIREP	Trifolium repens	TRIFOLIUM REPENS	White Clover	0	FACU	1
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	-1
VERURT	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	0
ACTALT	Verbesina alternifolia	Actinomeris alternifolia	Wingstem	5	FACW	-1
VIBDEN	Viburnum dentatum	VIBURNUM DENTATUM VAR. SCABRELLUM	Southern Arrow-Wood	0	FAC	0
VIBLEN	Viburnum lentago	Viburnum lentago	Nanny-Berry	4	FAC	0
VIOSOR	Viola sororia	Viola priceana	Hooded Blue Violet	3	FAC	0
ZIZAUR	Zizia aurea	Zizia aurea	Golden Alexanders	5	FAC	0

TRANSECT STRING

>

QUAD	1
SPECIES	COVER
ACHMIL	5
ASTPIL	5
CXBLAN	3
DAUCAR	5
ERIANN	3
PLAMAJ	5
PYCTEN	5
RUDHIR	2
SETPUM	3
SOLCAN	15
SORNUT	45
TRIHYB	10

>

QUAD	2
SPECIES	COVER
AMBART	5
PANCAP	3
POLPEN	2
SCHSCO	10
SETPUM	12
SORNUT	40
TRIREP	3

>

QUAD 3

SPECIES	COVER
AMBART	12
ASCVER	5
DAUCAR	2
PANCAP	10
SCHSCO	30
SETPUM	2
SORNUT	5
TRIREP	10

>
QUAD 4

SPECIES	COVER
AMBART	10
ANDGER	40
POACOM	5
POLPEN	3
SETPUM	20
SORNUT	5
SPOASP	8

>
QUAD 5

SPECIES	COVER
ANDGER	55
ASTPIL	3
CXGRAN	10
PANCAP	2
RATPIN	5
SETPUM	3
SOLCAN	5
SORNUT	5

>
QUAD 6

SPECIES	COVER
SCHSCO	12
SETPUM	10
SOLCAN	90
SORNUT	7

>
QUAD 7

SPECIES	COVER
ANDGER	90
ELYVIR	6
EUPALT	15
MONFIS	5
RUDHIR	5

SETPUM	15
SOLRIG	5
SORNUT	10
>	
QUAD	8
SPECIES	COVER
ANDGER	3
MONFIS	10
POACOM	5
SOLCAN	95
SORNUT	3
>	
QUAD	9
SPECIES	COVER
ANDGER	100
RATPIN	5
>	
QUAD	10
SPECIES	COVER
AMBART	12
CXTRIB	15
ELYVIR	10
EUPALT	30
PANVIR	5
SETPUM	40
SOLCAN	5
SOLGRA	10
TRIHYB	3
>	
QUAD	11
SPECIES	COVER
AMBART	5
ASTPIL	5
CXBLAN	5
ELYCAN	10
ELYVIR	5
MONFIS	5
PANVIR	10
SOLCAN	10
SOLGRA	5
SORNUT	45
>	
QUAD	12
SPECIES	COVER
AMBART	10

BROINE	8
PANVIR	50
POACOM	15
SETPUM	5
SOLCAN	8
SORNUT	5
>	
QUAD	13
SPECIES	COVER
AMBART	25
ANDGER	5
ASTPIL	3
ERIVIL	8
JUNDUD	2
RATPIN	8
SETPUM	5
SORNUT	5
SPOASP	30
>	
QUAD	14
SPECIES	COVER
AMBART	1
ANDGER	15
ELYVIR	25
ERIVIL	5
MONFIS	3
PANCAP	3
POACOM	30
SORNUT	22
TRIHYB	3
>	
QUAD	15
SPECIES	COVER
AMBART	4
ANDGER	30
BROINE	5
JUNDUD	5
POACOM	8
RATPIN	10
SOLRIG	10
SORNUT	40
>	
QUAD	16
SPECIES	COVER
ANDGER	75

ASTPIL	2
JUNDUD	2
MONFIS	3
POAPRA	20
RATPIN	15
SOLCAN	5
>	
QUAD	17
SPECIES	COVER
ASTPIL	2
CXVULP	20
ELYVIR	10
ERIVIL	2
JUNDUD	2
MONFIS	5
POLPEN	2
RUDHIR	3
SETPUM	5
SOLCAN	40
SORNUT	15
TRIHYB	5
>	
QUAD	18
SPECIES	COVER
ASTPIL	3
CYPESC	3
ELYVIR	5
MONFIS	2
PANCAP	4
POAPRA	15
POLPEN	5
RATPIN	5
SETPUM	12
SOLCAN	40
SORNUT	10
VERURT	5
>	
QUAD	19
SPECIES	COVER
AGRALB	4
AMBART	2
ANDGER	15
CXGRAN	5
ERIVIL	8
HORJUB	8

PHYVIR	5
POLPEN	5
SETPUM	15
SORNUT	40
TRIHYB	3
>	
QUAD	20
SPECIES	COVER
PANCAP	5
PHYVIR	55
RATPIN	5
SOLCAN	10
SORNUT	30
>	
QUAD	21
SPECIES	COVER
ASTPIL	3
MONFIS	5
RATPIN	5
SOLCAN	10
SOLGRA	100
>	
QUAD	22
SPECIES	COVER
AMBART	5
CIRARV	2
ELYVIR	10
HELHEL	10
LEOCAR	2
POAPRA	12
SOLCAN	50
SONARV	5
VERHAS	10
>	
QUAD	23
SPECIES	COVER
AGRALB	10
ASTPIL	7
ELYCAN	50
ELYVIR	10
MONFIS	12
RATPIN	5
RUDHIR	3
SORNUT	10
>	

QUAD	24
SPECIES	COVER
CIRARV	2
DAUCAR	3
ECHPUR	4
POAPRA	30
RATPIN	5
SOLCAN	15
SORNUT	15
TRIHYB	7
>	
QUAD	25
SPECIES	COVER
ASTPIL	7
DAUCAR	3
ECHPUR	4
ERIANN	5
HELHEL	5
MONFIS	5
PANCAP	5
SETPUM	15
SOLCAN	2
>	
QUAD	26
SPECIES	COVER
ECHCRU	3
ELYCAN	5
MONFIS	5
RATPIN	3
SETPUM	12
SOLCAN	3
>	
QUAD	27
SPECIES	COVER
AGRALB	15
ANDGER	30
ASTPIL	2
DAUCAR	3
MONFIS	45
SOLCAN	5
SORNUT	20
>	
QUAD	28
SPECIES	COVER
AMBART	8

ECHPUR	4
HELHEL	5
RUDHIR	5
SOLCAN	5
SORNUT	5
TRIHYB	15
>	
QUAD	29
SPECIES	COVER
CONCAN	3
ELYVIR	12
MELALB	2
MONFIS	5
POAPRA	12
RUDHIR	10
SETPUM	5
SOLCAN	4
SOLGRA	3
SOLRIG	5
TRIHYB	5
>	
QUAD	30
SPECIES	COVER
ASTPIL	3
MONFIS	3
PANDIC	2
RATPIN	5
RUDHIR	5
SETPUM	10
SOLCAN	10
SORNUT	30
VERHAS	2
>	
QUAD	31
SPECIES	COVER
ASTPIL	5
DAUCAR	4
ECHPUR	5
MONFIS	5
RATPIN	10
SETPUM	3
SOLCAN	40
SORNUT	15
TRIHYB	4
>	

QUAD	32
SPECIES	COVER
AGATEN	2
ANDGER	25
ASTNOV	2
ASTPIL	2
ASTSIM	4
CXGRAN	5
DAUCAR	1
ELYVIR	4
ERIVIL	2
HELAUT	3
JUNDUD	8
POAPRA	20
PRUVULL	6
PYCVIR	15
SOLCAN	2
SORNUT	10
TRIREP	1

>

QUAD	33
SPECIES	COVER
ANDGER	40
ASTLAT	2
CXGRAN	5
JUNDUD	2
POAPRA	5
PYCVIR	50
SOLCAN	5

>

QUAD	34
SPECIES	COVER
AGRALB	15
ANDGER	8
ASTNOV	5
ASTSIM	5
HELAUT	5
PHYVIR	20
PRUVULL	3
PYCVIR	45
SOLGIG	20
SOLRIG	3
SORNUT	10
TRIREP	3

>

QUAD	35
SPECIES	COVER
AGRALB	20
BIDFRO	5
CXCRIS	10
CXVULP	50
HELAUT	6
JUNDUD	8
JUNTOR	6
PANCAP	2
PHAARU	5
PYCVIR	5
SCIATV	20
SETPUM	2
SOLGIG	10
TRIHYB	5

>

QUAD	36
SPECIES	COVER
AGRALB	50
CXVULP	50
EUPSER	8
JUNTEN	5
PHYVIR	10
SCIATV	20
SOLCAN	8
SOLGIG	6

>

QUAD	37
SPECIES	COVER
ANDGER	75
PYCVIR	15
SOLGIG	10

>

QUAD	38
SPECIES	COVER
ACTALT	6
AGRALB	20
AMBTRI	15
ASTSIM	10
ELYVIR	15
GLEHED	10
MONFIS	8
POAPRA	25
SOLCAN	15

SOLGRA	5
SOLRIG	6
VIOSOR	5
>	
QUAD	39
SPECIES	COVER
ACTALT	20
AGRALB	10
AMBTRI	6
ELYVIR	90
MONFIS	8
>	
QUAD	40
SPECIES	COVER
AGRGRY	8
ASTPIL	2
ASTSIM	8
CIRARV	5
CXVULP	5
DAUCAR	3
ELYVIR	8
EPICOL	5
EUPSER	8
RUDTRI	10
SILPER	5
SOLCAN	10
SOLGRA	20
TRIHYB	4
>	
QUAD	41
SPECIES	COVER
AMBTRI	8
ELYVIR	20
EUPMAC	6
EUPRUG	6
GEUCAN	2
PILPUM	4
RUDTRI	10
SILTER	3
SOLCAN	6
SOLGRA	10
SOLRIG	5
ZIZAUR	3
>	
QUAD	42

SPECIES	COVER
AMBART	6
AMBTRI	5
DAUCAR	2
ELYVIR	30
RATPIN	15
RUDTRI	30
SOLCAN	25
TAROFF	2
TRIHYB	8

>

QUAD	43
SPECIES	COVER
ACARHO	2
ASTSIM	3
CALCAN	80
ECHCRU	6
EUPSER	2
MELALB	8
PHAARU	6
RATPIN	3
SOLCAN	8

>

QUAD	44
SPECIES	COVER
ASTPIL	5
ASTSAGD	6
CXBLAN	3
DAUCAR	2
ELYCAN	2
GEUCAN	5
POAPRA	15
PRUVULL	5
SOLCAN	50
TRIHYB	10
VERURT	6

>

QUAD	45
SPECIES	COVER
ANDGER	50
ASTNOV	5
ASTSIM	3
BAPALB	3
CXBLAN	6
DICACU	3

JUNDUD	2
LYCAME	5
PARQUI	3
POAPRA	15
SOLCAN	40
SOLGRA	6
SOLRIG	6
SORNUT	10
TOXRAD	3
TRIHYB	3

>

QUAD	46
SPECIES	COVER
AGRGRY	3
AMBTRI	8
ASTSIM	3
DASMAC	6
ELYCAN	5
ELYVIR	3
EREHIE	1
LACCAN	5
MUHSCH	20
PARQUI	6
PLARUG	6
POLHYD	2
POLVER	5
RHACAT	3
TAROFF	3
VERURT	5
VIBDEN	5

>

QUAD	47
SPECIES	COVER
ACTALT	5
AMBTRI	25
ASTSAGD	10
CAMAME	5
CINARU	5
CRYCAN	5
ELYVIL	5
ELYVIR	5
EUPRUG	5
GEUCAN	5
LACFLO	5
LONMAA	3

RUBOCC	5
SOLCAN	15
VERURT	8
>	
QUAD	48
SPECIES	COVER
ACTALT	15
AMBTRI	5
ASTSIM	5
CAMAME	3
CINARU	20
CRYCAN	10
GALTRD	4
LACFLO	10
PARQUI	20
POLVIR	8
SMILAS	6
SOLCAN	8
TOXRAD	6
VERURT	8
>	
QUAD	49
SPECIES	COVER
ACTALT	7
AMBTRI	25
ASTSIM	8
BLEHIR	5
CAMAME	3
CINARU	25
LACFLO	5
PARQUI	20
POAPRA	5
SANODO	20
SOLCAN	10
>	
QUAD	50
SPECIES	COVER
ACTALT	40
AMBTRI	2
ASTSIM	10
CAMAME	2
CINARU	5
CRYCAN	5
CXBLAN	15
ELYVIL	5

ELYVIR	3
LACFLO	8
MONFIS	5
POAPRA	6
RHACAT	3
RUDLAC	8
SOLCAN	15
TOXRAD	10
VERURT	6
>	
QUAD	51
SPECIES	COVER
BROINE	15
DAUCAR	5
GEUCAN	3
GLEHED	7
LACCAN	3
MONFIS	50
SOLCAN	15
TRIREP	3
VIOSOR	2
>	
QUAD	52
SPECIES	COVER
ACTALT	5
AMBTRI	10
ASTSIM	2
CAMAME	5
CRYCAN	7
CXTRIB	3
DAUCAR	3
ELYCAN	5
ELYVIL	2
ERIANN	5
GEUCAN	5
LACCAN	3
MELALB	2
POTNOR	5
PRUVULL	5
RHACAT	2
SOLCAN	25
SONARV	5
TOXRAD	5
>	
QUAD	53

SPECIES	COVER
AMBTRI	5
DAUCAR	7
ECHCRU	10
PANCAP	10
ROBPSE	2
SETFAB	7
SETPUM	60

>

QUAD	54
SPECIES	COVER
AMBTRI	5
ASTPIL	2
CIRARV	5
DAUCAR	2
ELYCAN	60
ERIANN	5
MONFIS	3
OXASTR	3
PLARUG	5
SETPUM	5
SOLCAN	5

>

QUAD	55
SPECIES	COVER
AMBTRI	5
DAUCAR	2
GEUCAN	5
MONFIS	5
SOLCAN	40

>

QUAD	56
SPECIES	COVER
AGRREP	2
CORRAC	4
DAUCAR	2
POAPRA	35
PYCVIR	8
SOLCAN	30
SOLGRA	8
VIBDEN	15

>

QUAD	57
SPECIES	COVER
ACHMIL	1

CXBLAN	8
MONFIS	3
POAPRA	35
RATPIN	10
RUDSUB	15
SOLCAN	35
SORNUT	2
SPAPEC	6
>	
QUAD	58
SPECIES	COVER
ANDGER	35
ASTPIL	6
BROINE	3
CXVULP	4
ELYVIL	5
HELTUB	15
POAPRA	4
PYCVIR	6
RUDTRI	20
VIBLEN	3
>	
QUAD	59
SPECIES	COVER
CXVULP	20
JUNDUD	25
PILPUM	1
POAPRA	25
RATPIN	2
SCIPEN	8
SORNUT	20
>	
QUAD	60
SPECIES	COVER
BIDCER	3
FESELA	5
POAPRA	25
RATPIN	4
SETPUM	2
SOLCAN	6
SORNUT	60
>	
QUAD	61
SPECIES	COVER
AMBART	2

DAUCAR	2
ELYCAN	4
EUPALT	8
MONFIS	20
RATPIN	20
RUDTRI	4
SOLCAN	2
SORNUT	15

>

QUAD	62
SPECIES	COVER
AMBART	1
ANDGER	10
BIDCER	4
DAUCAR	1
MELALB	3
RATPIN	1
RUDSUB	2
SCHSCO	5
SETPUM	1
SOLCAN	4
SORNUT	40
TRIHYB	5

>

QUAD	63
SPECIES	COVER
ASTPIL	2
DAUCAR	1
HELTUB	65
MELALB	3
POAPRA	10
RATPIN	5
SCHSCO	8
TRIHYB	3

>

QUAD	64
SPECIES	COVER
AMBART	2
CORAME	8
DAUCAR	1
ERAHYP	2
ERIANN	4
HELTUB	40
MELALB	75
RATPIN	1

RUDHIR	1
SOLCAN	6
TRIPRA	4
>	
QUAD	65
SPECIES	COVER
AMBART	20
ASTPIL	3
BIDCER	2
ELYCAN	2
ERIVIG	8
MEDLUP	4
MELALB	8
MONFIS	8
RUDHIR	1
RUDTRI	6
SCHSCO	12
SETPUM	2
SORNUT	35
TRIPRA	3
>	
QUAD	66
SPECIES	COVER
BIDCER	2
CIRARV	1
ELYCAN	2
ERIANN	4
ERIVIG	3
MELALB	1
RUDHIR	2
SCHSCO	35
SETPUM	12
SORNUT	35
>	
QUAD	67
SPECIES	COVER
ANDGER	6
ASTPIL	2
DAUCAR	3
ELYCAN	6
ERIVIG	2
SCHSCO	30
SETPUM	5
SOLCAN	4
SORNUT	35

TRIHYB	6
>	
QUAD	68
SPECIES	COVER
AMBART	2
ANDGER	2
ASTPIL	2
BIDCER	10
ELYCAN	2
SCHSCO	25
SORNUT	60
>	
QUAD	69
SPECIES	COVER
AMBART	2
ANDGER	35
ERIVIG	15
EUPALT	1
MELALB	4
POAPRA	4
RUMCRI	1
SCIATV	8
SETPUM	8
SOLCAN	2
SORNUT	15
TRIHYB	5
VERHAS	2
>	
QUAD	70
SPECIES	COVER
AMBART	4
ANDGER	45
CXVULP	6
ERIVIG	4
PYCVIR	12
RATPIN	1
SETPUM	4
SOLCAN	2
SORNUT	20
>	
QUAD	71
SPECIES	COVER
AGRALB	2
ASTPIL	1
ASTSIM	10

BIDFRO	60
CXBEBB	10
CXVULP	3
CYPESC	2
ELYVIR	3
ERIVIG	2
LYCAME	15
SOLCAN	3
SOLGRA	3
SORNUT	8
>	
QUAD	72
SPECIES	COVER
AGRALB	2
ANDGER	40
ASTPIL	3
CXBEBB	1
DAUCAR	2
ERIVIG	12
MONFIS	2
POAPRA	8
PYCVIR	10
RATPIN	2
SETPUM	3
SOLCAN	0.3
SOLGRA	4
SORNUT	20
>	
QUAD	73
SPECIES	COVER
AMBART	60
ASTPIL	1
MONFIS	1
POAPRA	8
SETPUM	2
SOLCAN	10
SOLGRA	4
SORNUT	10
>	
QUAD	74
SPECIES	COVER
CORAME	3
DAUCAR	1
MONFIS	3
POAPRA	4

SOLCAN	25
SOLRIG	20
SORNUT	50
>	
QUAD	75
SPECIES	COVER
AMBART	1
ANDGER	35
ASTPIL	2
MELALB	6
MONFIS	4
POAPRA	4
RATPIN	4
SCHSCO	8
SOLCAN	8
SOLRIG	20
TRIHYB	1
>	
QUAD	76
SPECIES	COVER
AGRALB	3
ERIVIG	2
LONTAT	3
MONFIS	4
RATPIN	4
SETPUM	2
SOLCAN	20
SOLRIG	3
SORNUT	65
>	
QUAD	77
SPECIES	COVER
AMBART	2
ANDGER	35
CORTRI	8
ELYVIR	3
ERIVIG	4
MONFIS	3
RATPIN	6
SOLCAN	5
SORNUT	35
TRIHYB	3
>	
QUAD	78
SPECIES	COVER

AGRALB	75
ASTSIM	1
ELYVIR	4
EUPSER	1
HORJUB	2
POAPRA	4
RUDHIR	2
SETPUM	5
SORNUT	6
>	
QUAD	79
SPECIES	COVER
AMBART	3
CORTRI	10
CXVULP	3
ELYVIR	3
ERIANN	2
ERIVIG	6
MONFIS	4
POAPRA	6
RATPIN	4
SOLCAN	2
SORNUT	50
TRIHYB	4
VERHAS	1
>	
QUAD	80
SPECIES	COVER
AGRALB	20
AMBART	2
ANDGER	6
CYPESC	15
ELYVIR	15
PANCAP	15
POAPRA	5
TRIHYB	2
VERHAS	5
>	
QUAD	81
SPECIES	COVER
ASTPIL	1
DESCAA	4
PHAARU	2
POAPRA	30
SETPUM	3

SOLCAN	35
SOLRIG	8
SORNUT	2
TRIHYB	3
>	
QUAD	82
SPECIES	COVER
ANDGER	65
ASTPIL	2
CYPESC	8
ELYCAN	4
ELYVIR	8
MONFIS	4
PANCAP	2
PHAARU	2
SOLCAN	15
SORNUT	5
TRIHYB	3
VERHAS	6
>	
QUAD	83
SPECIES	COVER
ANDGER	25
ECHPUR	6
ELYCAN	1
MONFIS	4
POAPRA	2
RUDHIR	2
SOLCAN	4
SORNUT	40
TRIHYB	6
>	
QUAD	84
SPECIES	COVER
ASTLAE	1
ECHPUR	2
ELYVIR	2
MONFIS	3
PANCAP	4
PHAARU	3
POAPRA	20
RATPIN	8
SETPUM	5
SOLCAN	60
>	

QUAD	85
SPECIES	COVER
ASTPIL	3
CIRARV	1
ELYVIR	2
MONFIS	8
RATPIN	10
RUMCRI	2
SOLCAN	70
SORNUT	3

>

QUAD	86
SPECIES	COVER
ANDGER	25
ASTPIL	8
MONFIS	2
RATPIN	10
SOLCAN	60
SOLRIG	4

>

QUAD	87
SPECIES	COVER
AMBART	6
ASCINC	4
CIRARV	2
ERIANN	6
EUPSER	8
PANCAP	2
SETPUM	3
SOLCAN	25
SORNUT	2
TRIHYB	15
VERHAS	25
VERURT	8

>

QUAD	88
SPECIES	COVER
AGRALB	3
ANDGER	8
ASTPIL	3
ECHCRU	2
ELYVIR	5
ERIVIG	2
MELALB	2
MONFIS	

PHAARU	10
POAPRA	2
RUDHIR	6
SCHSCO	10
SETPUM	20
SOLCAN	20
VERHAS	4
>	
QUAD	89
SPECIES	COVER
AGRALB	4
BIDFRO	30
CXGRAN	8
CXTRIB	3
ELYVIR	5
EUPALT	8
JUNDUD	8
LEEORY	10
POACOM	3
RUDTRI	4
SETPUM	3
SOLCAN	2
TRIHYB	5
VERHAS	5
>	
QUAD	90
SPECIES	COVER
BIDFRO	2
DAUCAR	1
DESCAA	5
MONFIS	5
POACOM	7
RATPIN	7
SOLCAN	50
SORNUT	40
>	
QUAD	91
SPECIES	COVER
AGRALB	3
ASTPIL	2
ASTSIM	2
ELYVIR	5
LOBSIP	5
LYSNUM	50
PHAARU	5

PRUVULL	5
>	
QUAD	92
SPECIES	COVER
ASTPIL	3
CXBLAN	30
MUHSCH	3
PLARUG	2
RUDHIR	5
RUDTRI	30
VIOSOR	2
>	
QUAD	93
SPECIES	COVER
ANDGER	10
ASTPIL	3
DAUCAR	1
ELYCAN	5
ELYVIR	10
MONFIS	8
RUDTRI	75
VIOSOR	3
>	
QUAD	94
SPECIES	COVER
AMBTRI	5
ASTPIL	2
CXGRIS	10
ELYVIR	25
GEUCAN	3
LYSNUM	5
MEDLUP	3
OXASTR	1
RUDTRI	25
>	

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix D

Transect Photos & Locations (9.4.2019-9.5.2019) Stream Monitoring Photos & Locations

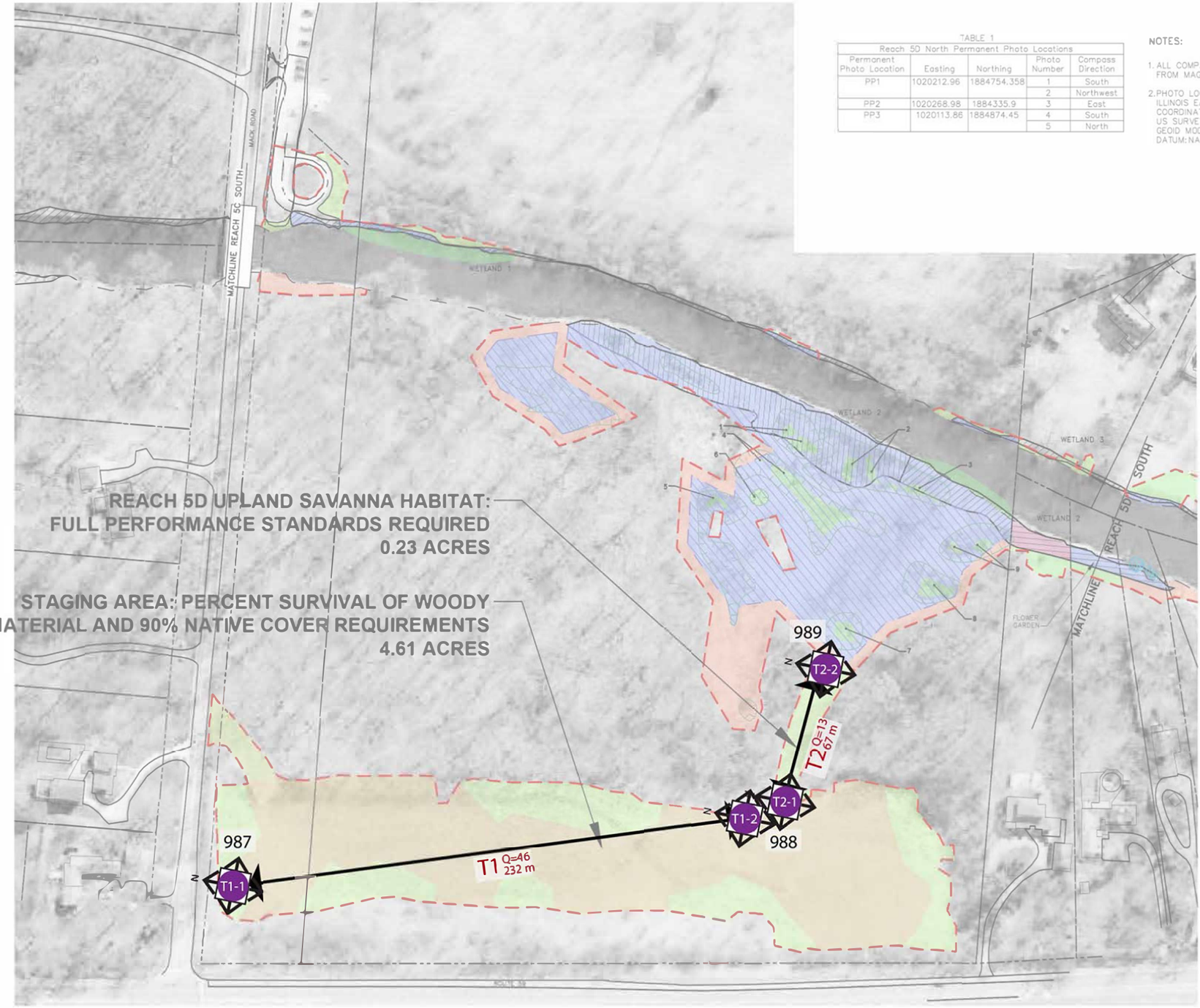


TABLE 1
Reach 5D North Permanent Photo Locations

Permanent Photo Location	Easting	Northing	Photo Number	Compass Direction
PP1	1020212.96	1884754.358	1	South
			2	Northwest
PP2	1020268.98	1884335.9	3	East
PP3	1020113.86	1884874.45	4	South
			5	North

NOTES:

1. ALL COMPASS DIRECTIONS ARE FROM MAGNETIC NORTH.
2. PHOTO LOCATIONS ARE IN THE ILLINOIS EAST STATE PLANE COORDINATE SYSTEM IN UNITS OF US SURVEY FEET. GEOID MODEL: GEOID 96 (CONUS) DATUM: NAD 83

LEGEND:

- LIMIT OF ACTUAL DISTURBANCE
- PROPERTY LINE
- APPROXIMATE EDGE OF WATER
- POOL
- RIFFLE
- 8 HOLLOW
- WETLAND BOUNDARY
- WET MEADOW WETLAND
- FORESTED WETLAND
- MITIGATION WETLAND
- RESTORED UPLAND SAVANNA
- RESTORED UPLAND SAVANNA AND FERMI LABS SEED
- RESTORED FERMI LABS SEED
- RESTORED WETLAND
- AREA RESTORED WITH PLANT PLUGS
- RESTORED SHADY FLOODPLAIN
- RESTORED LAWN
- RESTORED BENTGRASS

- SURVEY POINT
- TRANSECT
- Q QUADRAT
- 1 START
- 2 END
- TRANSECT PHOTOGRAPHS

NOTE:

1. BASE MAP PROVIDED BY KERR-McGEE CHEMICAL LLC (NOW KNOWN AS TRONOX) IN AN ARC VIEW PROJECT ENTITLED WEST CHICAGO KRESS CREEK. TOPOGRAPHIC LINES WITHIN THE LIMIT OF SURVEY LINES WERE DEVELOPED BY ARCADIS FROM SURVEY DATA COLLECTED BY PROSOURCE TECHNOLOGIES, INC. (NOW KNOWN AS CARLSON PSI) FOLLOWING COMPLETION OF RESTORATION.

0 80' 160'
GRAPHIC SCALE

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12C, TRACER NO. B0071024/0000/00035/REACH5D/71024G15.DWG, DATED 3/27/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

MACK ROAD MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE 12-6

Photo 1- Reach 5D Mack Road Staging Area; Transect 1 (Start) North

Photo 2- Reach 5D Mack Road Staging Area; Transect 1 (Start) East

Photo 3- Reach 5D Mack Road Staging Area; Transect 1 (Start) South

Photo 4- Reach 5D Mack Road Staging Area; Transect 1 (Start) West

Photo 5- Reach 5D Mack Road Staging Area; Transect 1 (End) North

Photo 6- Reach 5D Mack Road Staging Area; Transect 1 (End) East

Photo 7- Reach 5D Mack Road Staging Area; Transect 1 (End) South

Photo 8- Reach 5D Mack Road Staging Area; Transect 1 (End) West

Photo 9- Reach 5D Upland Savanna; Transect 2 (Start) North

Photo 10- Reach 5D Upland Savanna; Transect 2 (Start) East

Photo 11- Reach 5D Upland Savanna; Transect 2 (Start) South

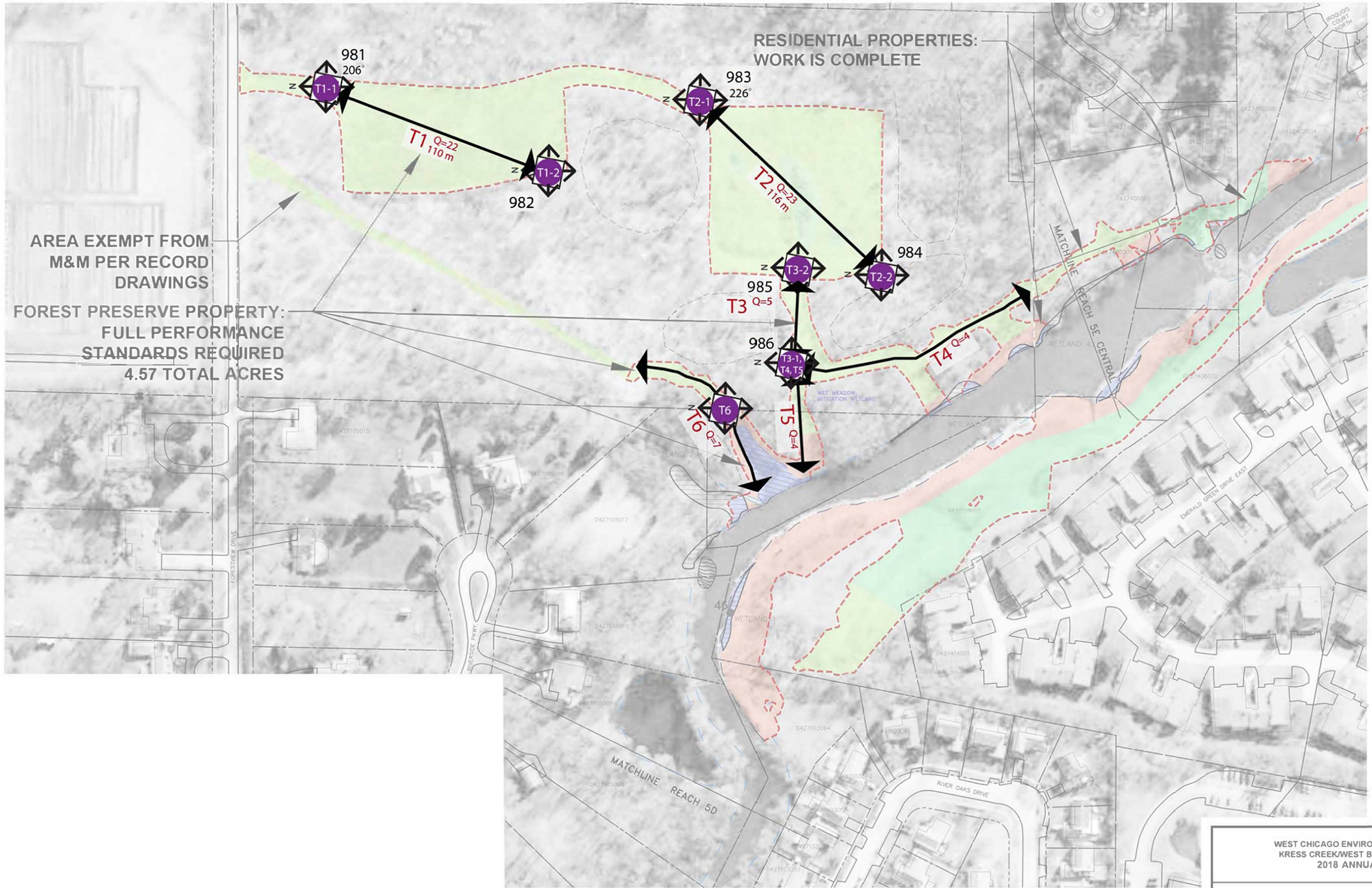
Photo 12- Reach 5D Upland Savanna; Transect 2 (Start)West

Photo 13- Reach 5D Upland Savanna; Transect 2 (End) North

Photo 14- Reach 5D Upland Savanna; Transect 2 (End) East

Photo 15- Reach 5D Upland Savanna; Transect 2 (End) South

Photo 16- Reach 5D Upland Savanna; Transect 2 (End) West



WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 5E MONITORING STATUS

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS WHICH REFERENCES RECORD DRAWING B-12A, TRACER NO. B0071030/0000/00026/DWG/71030G10.DWG, DATED 5/21/09. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE 12-1


Photo 17- Reach 5E; Transect 1 (Start) North


Photo 18- Reach 5E; Transect 1 (Start) East


Photo 19- Reach 5E; Transect 1 (Start) South


Photo 20- Reach 5E; Transect 1 (Start) West


Photo 21- Reach 5E; Transect 1 (End) North


Photo 22- Reach 5E; Transect 1 (End) East


Photo 23- Reach 5E; Transect 1 (End) South


Photo 24- Reach 5E; Transect 1 (End) West


Photo 25- Reach 5E; Transect 2 (Start) North


Photo 26- Reach 5E; Transect 2 (Start) East


Photo 27- Reach 5E; Transect 2 (Start) South


Photo 28- Reach 5E; Transect 2 (Start) West


Photo 29- Reach 5E; Transect 2 (End) North


Photo 30- Reach 5E; Transect 2 (End) East


Photo 31- Reach 5E; Transect 2 (End) South


Photo 32- Reach 5E; Transect 2 (End) West


Photo 33- Reach 5E; Transect 3 (Start) North


Photo 34- Reach 5E; Transect 3 (Start) East


Photo 35- Reach 5E; Transect 3 (Start) South


Photo 36- Reach 5E; Transect 3 (Start) West


Photo 37- Reach 5E; Transect 3 (End), 4 & 5 (Start) North


Photo 38- Reach 5E; Transect 3 (End), 4 & 5 (Start) East


Photo 39- Reach 5E; Transect 3 (End), 4 & 5 (Start) South


Photo 40- Reach 5E; Transect 3 (End), 4 & 5 (Start) West

Photo 41- Reach 5E; Transect 6 (Start) North

Photo 42- Reach 5E; Transect 6 (Start) East

Photo 43- Reach 5E; Transect 6 (Start) South

Photo 44- Reach 5E; Transect 6 (Start) West

POD R8-3: FULL PERFORMANCE STANDARDS REQUIRED (MAY 2014 PROGRESS RPT)
0.14 TOTAL ACRES

POD R8-40: RESIDENTIAL LOTS COMPLETE (MAY 2014 PROGRESS RPT)

POD R8-40:
PARCEL 04-35-404-013
RELEASED 08-11-2015

POD R8-4: RESIDENTIAL LOTS COMPLETE (MAY 2014 PROGRESS RPT)

T10-1 961 T10Q=1

T10-2 960 T10Q=2

MATCHLINE REACH 7

MATCHLINE DRAWING B-11B

BATAVIA ROAD

PERMANENT STONE PARKING LOT

MAIN STREET

WARRENVILLE ROAD

LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH LAWN SEED PER TABLE 7 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH PRAIRIE DROPSEED
- SURVEY POINT
- TRANSECT
- Q QUADRAT
- TRANSECT PHOTOGRAPHS
- 1 START
- 2 END

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE
B-11A


Photo 45- Reach 8A; Transect 10 (Start) North


Photo 46- Reach 8A; Transect 10 (Start) East


Photo 47- Reach 8A; Transect 10 (Start) South


Photo 48- Reach 8A; Transect 10 (Start) West


Photo 49- Reach 8A; Transect 10 (End) North


Photo 50- Reach 8A; Transect 10 (End) East


Photo 51- Reach 8A; Transect 10 (End) South


Photo 52- Reach 8A; Transect 10 (End) West


Photo 53- Reach 8A; Transect 11 North


Photo 54- Reach 8A; Transect 11 East


Photo 55- Reach 8A; Transect 11 South


Photo 56- Reach 8A; Transect 11 West

AREA 4: FULL PERFORMANCE STANDARDS REQUIRED, 0.35 ACRES
BANK STABILITY MONITORING REQUIRED, 450 LF

AREA 5: FULL PERFORMANCE
STANDARDS REQUIRED, 0.28 ACRES
BANK STABILITY MONITORING REQUIRED, 700 LF

AREA 3: NO M&M REQUIRED (9/27/13)
WEST BANK RELEASED FROM
BANK STABILITY MONITORING
(8/11/15)

974 975 976 977 978

T11 T11 Q=1 T12-2 T12 Q=7 67 m T12-1 T13-1 T13 Q=6 60 m T13-2

RIVER ROAD TOWNLINE ROAD FOREST VIEW AVE. S.

MATCHLINE DRAWING B-11B MATCHLINE DRAWING B-11D

LEGEND:
APPROXIMATE EDGE OF WATER
APPROXIMATE FLOODWAY
APPROXIMATE FLOODPLAIN
PROPERTY LINE
LIMIT OF SURVEY
PRE-CONSTRUCTION CONTOUR
POST-CONSTRUCTION CONTOUR
LIMIT OF ACTUAL DISTURBANCE
WETLAND BOUNDARY
MARSH/WET MEADOW WETLAND
FORESTED WETLAND
AREA SEEDED WITH IDEM FLOODPLAIN SEED MIX PER TABLE A ON DRAWING B-12
AREA SEEDED WITH WETLAND SEED MIX PER TABLE B ON DRAWING B-12
AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE B ON DRAWING B-12
AREA SEEDED WITH TRU BLEND VERNONIA PVE SEED MIX PER TABLE H1 ON DRAWING B-12

NOTES:
1. BASEMAP PROVIDED BY DUPAGE COUNTY ON FEBRUARY 6, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON VS FROM NOVEMBER 2010 THROUGH JANUARY 2011.
2. IN ADDITION TO THE SPECIFIED SEED MIX, MONITORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT FROM THE EDGE OF WATER.

SURVEY POINT
TRANSECT
Q QUADRAT
TRANSECT PHOTOGRAPHS
1 START
2 END
0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE
B-11C

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015


Photo 57- Reach 8A; Transect 12 (Start) North


Photo 58- Reach 8A; Transect 12 (Start) East


Photo 59- Reach 8A; Transect 12 (Start) South


Photo 60- Reach 8A; Transect 12 (Start) West


Photo 61- Reach 8A; Transect 12 (End) North


Photo 62- Reach 8A; Transect 12 (End) East


Photo 63 Reach 8A; Transect 12 (End) South


Photo 64- Reach 8A; Transect 12 (End) West


Photo 65- Reach 8A; Transect 13 (Start) North


Photo 66- Reach 8A; Transect 13 (Start) East


Photo 67- Reach 8A; Transect 13 (Start) South


Photo 68- Reach 8A; Transect 13 (Start) West

Photo 69- Reach 8A; Transect 13(End) North

Photo 70- Reach 8A; Transect 13(End) East

Photo 71- Reach 8A; Transect 13(End) South

Photo 72- Reach 8A; Transect 13(End) West

AREA 6: FULL PERFORMANCE STANDARDS REQUIRED, 0.23 ACRES
BANKSTABILITY MONITORING REQUIRED, 410 LF

AREA 7: PERCENT SURVIVAL OF WOODY MATERIAL ONLY (MTG JULY 2015), WEST BANK RELEASED FROM BANK STABILITY MONITORING (8/11/15)

FERRY ROAD
DIRT ROAD
APPROXIMATE BIKE TRAIL
APPROXIMATE BIKE TRAIL
MATCHLINE DRAWING B-11E
MATCHLINE DRAWING B-11C
I-88
T15
980
T15 Q=1
T14-2
T14-1
979
T14 Q=4 30 m

LEGEND:
- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH LAWN SEED MIX PER TABLE 7 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:
1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN OCTOBER 2011 THROUGH OCTOBER 2012.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

- SURVEY POINT
- TRANSECT
- Q QUADRAT
- TRANSECT PHOTOGRAPHS
- 1 START
- 2 END

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE B-11D


Photo 73- Reach 8A; Transect 14 North


Photo 74- Reach 8A; Transect 14 East


Photo 75- Reach 8A; Transect 14 South


Photo 76- Reach 8A; Transect 14 West


Photo 77- Reach 8A; Transect 15 North


Photo 78- Reach 8A; Transect 15 East


Photo 79- Reach 8A; Transect 15 South


Photo 80- Reach 8A; Transect 15 West

AREA 10: NO M&M REQUIRED (9/27/13)

AREA 11: FULL PERFORMANCE STANDARDS REQUIRED, 2.86 ACRES
BANK STABILITY MONITORING REQUIRED, 680 LF

AREA 9:
NO M&M REQUIRED (9/27/13),
BANK STABILITY MONITORING REQUIRED, 600 LF

T1-1
T1-2
T2-1
T2-2
944
943
942
T2 Q=5 22 m
T1 Q=11 214 m
N
MATCHLINE DRAWING B-11G
MATCHLINE DRAWING B-11I
RAYMOND DRIVE
GRAVEL PARKING LOT

FERRY CREEK: BANK STABILITY MONITORING REQUIRED TO CONFLUENCE WITH RIVER BOTH BANKS, 1500 LF TOTAL

AREA 12: FULL PERFORMANCE STANDARDS REQUIRED (EXCLUDES GRAVEL LOT) 8.98 ACRES (TOTAL)

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS
CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015

LEGEND:
- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12
- AREA SEEDED WITH TRI-BLEND PERENNIAL RYE SEED PER TABLE 11 ON DRAWING B-12

NOTES:
1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN FROM OCTOBER 2011 THROUGH OCTOBER 2012.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

- SURVEY POINT
- TRANSECT
- Q QUADRAT
- TRANSECT PHOTOGRAPHS
- 1 START
- 2 END

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjjr.com

FIGURE B-11H


Photo 81- Reach 8B; Transect 1 (Start) North


Photo 82- Reach 8B; Transect 1 (Start) East


Photo 83- Reach 8B; Transect 1 (Start) South


Photo 84- Reach 8B; Transect 1 (Start) West


Photo 85- Reach 8B; Transect 1 (End) North


Photo 86- Reach 8B; Transect 1 (End) East


Photo 87- Reach 8B; Transect 1 (End) South


Photo 88- Reach 8B; Transect 1 (End) West


Photo 89- Reach 8B; Transect 2 (Start) North


Photo 90- Reach 8B; Transect 2 (Start) East


Photo 91- Reach 8B; Transect 2 (Start) South

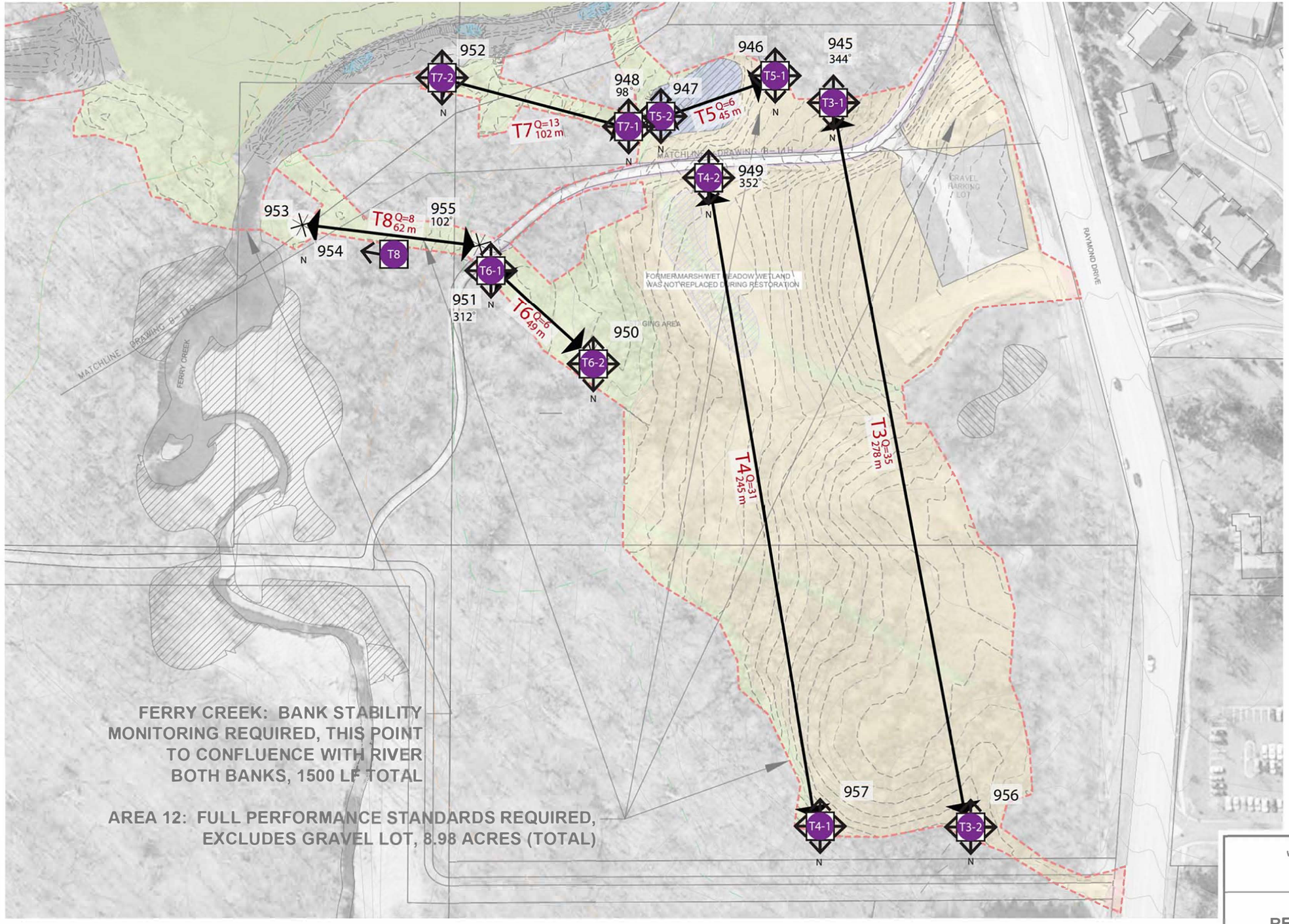

Photo 92- Reach 8B; Transect 2 (Start)West

Photo 93- Reach 8B; Transect 2 (End) North

Photo 94- Reach 8B; Transect 2 (End) East

Photo 96- Reach 8B; Transect 2 (End) West

Photo 95- Reach 8B; Transect 2 (End) South



LEGEND:

- APPROXIMATE EDGE OF WATER
- APPROXIMATE FLOODWAY
- APPROXIMATE FLOODPLAIN
- PROPERTY LINE
- LIMIT OF SURVEY
- PRE-CONSTRUCTION CONTOUR
- POST-CONSTRUCTION CONTOUR
- LIMIT OF ACTUAL DISTURBANCE
- EXISTING TRAIL USED AS HAUL ROAD
- WETLAND BOUNDARY
- MARSH/WET MEADOW WETLAND
- FORESTED WETLAND
- BERM
- AREA SEEDED WITH OPEN FLOODPLAIN SEED MIX PER TABLE 4 ON DRAWING B-12
- AREA SEEDED WITH WETLAND SEED MIX PER TABLE 6 ON DRAWING B-12
- AREA SEEDED WITH IDOT CLASS 2A SALT TOLERANT ROADSIDE MIX PER TABLE 8 ON DRAWING B-12
- AREA SEEDED WITH UPLAND PRAIRIE SEED MIX PER TABLE 5 ON DRAWING B-12

NOTES:

1. BASEMAP PROVIDED BY DuPAGE COUNTY ON FEBRUARY 5, 2008. TOPOGRAPHY WITHIN THE LIMIT OF SURVEY CREATED FROM SURVEY COLLECTED BY CARLSON PSI FROM NOVEMBER 2010 THROUGH JANUARY 2011, AND CARLSON McCAIN FROM OCTOBER 2011 THROUGH OCTOBER 2012.
2. IN ADDITION TO THE SPECIFIED SEED MIX, RESTORED BANKS WERE OVERSEEDED WITH A 50:50 BLEND OF PRAIRIE CORDGRASS AND DARK GREEN BULRUSH FROM THE EDGE OF WATER TO THE TOP OF THE BANK TO A MAXIMUM DISTANCE OF 15-FT. FROM THE EDGE OF WATER.

- SURVEY POINT
- TRANSECT
- Q QUADRAT
- TRANSECT PHOTOGRAPHS
- 1 START
- 2 END

0 60' 120'
GRAPHIC SCALE

MAP UPDATED 8-17-2015

FIGURE MADE FROM 2013 ANNUAL MONITORING REPORT FILE CREATED BY ARCADIS. CURRENT AERIAL PHOTO FROM BING MAPS, JULY 2015.

WEST CHICAGO ENVIRONMENTAL RESPONSE TRUST
KRESS CREEK/WEST BRANCH DuPAGE RIVER SITE
2018 ANNUAL MONITORING

REACH 8 MONITORING STATUS

SMITHGROUP
44 EAST MIFFLIN STREET
SUITE 500
MADISON, WI 53703
608.251.1177
www.smithgroupjr.com

FIGURE B-11I


Photo 97- Reach 8B; Transect 3 (Start) North


Photo 98- Reach 8B; Transect 3 (Start) East


Photo 99- Reach 8B; Transect 3 (Start) South


Photo 100- Reach 8B; Transect 3 (Start) West


Photo 101- Reach 8B; Transect 3 (End) North


Photo- 102 Reach 8B; Transect 3 (End) East


Photo- 103 Reach 8B; Transect 3 (End) South


Photo 104- Reach 8B; Transect 3 (End) West


Photo 105- Reach 8B; Transect 4 (Start) North


Photo 106- Reach 8B; Transect 4 (Start) East


Photo 107- Reach 8B; Transect 4 (Start) South


Photo 108- Reach 8B; Transect 4 (Start) West


Photo 109- Reach 8B; Transect 4 (End) North


Photo 110- Reach 8B; Transect 4 (End) East


Photo 111- Reach 8B; Transect 4 (End) South


Photo 112- Reach 8B; Transect 4 (End) West


Photo 113- Reach 8B; Transect 5 (Start) North


Photo 114- Reach 8B; Transect 5 (Start) East


Photo 115- Reach 8B; Transect 5 (Start) South


Photo 116- Reach 8B; Transect 5 (Start) West


Photo 117- Reach 8B; Transect 5 (End) North


Photo 118- Reach 8B; Transect 5 (End) East


Photo 119- Reach 8B; Transect 5 (End) South


Photo 120- Reach 8B; Transect 5 (End) West


Photo 121- Reach 8B; Transect 6 (Start) North


Photo 122- Reach 8B; Transect 6 (Start) East


Photo 123- Reach 8B; Transect 6 (Start) South


Photo 124- Reach 8B; Transect 6 (Start) West


Photo 125- Reach 8B; Transect 6 (End) North


Photo 126- Reach 8B; Transect 6 (End) East


Photo 127- Reach 8B; Transect 6 (End) South


Photo 128- Reach 8B; Transect 6 (End) West


Photo 129- Reach 8B; Transect 7 (Start) North


Photo 130- Reach 8B; Transect 7 (Start) East


Photo 131- Reach 8B; Transect 7 (Start) South


Photo 132- Reach 8B; Transect 7 (Start) West


Photo 133- Reach 8B; Transect 7 (End) North


Photo 134- Reach 8B; Transect 7 (End) East


Photo 135- Reach 8B; Transect 7 (End) South


Photo 136- Reach 8B; Transect 7 (End) West


Photo 137- Reach 8B; Transect 8 (Start) North


Photo 138- Reach 8B; Transect 8 (Start) East


Photo 139- Reach 8B; Transect 8 (Start) South


Photo 140- Reach 8B; Transect 8 (Start) West


Photo 141- Reach 8B; Transect 8 (End) North


Photo 142- Reach 8B; Transect 8 (End) East


Photo 143- Reach 8B; Transect 8 (End) South


Photo 144- Reach 8B; Transect 8 (End) West

2019 Annual Monitoring Report

Reaches 5D, 5E, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix E

2019 MIPN Invasive Species List

MIPN 2019 Midwest Invasivie Plant List for Illinois

Common Name	Scientific Name
Japanese chaff flower	Achyranthes japonica
tree of heaven	Ailanthus altissima
Fiveleaf akebia or Chocolate vine	Akebia quinata
silk tree/mimosa	Albezia julibrissen
garlic mustard	Alliaria petiolata
wild garlic	Allium vineale
Japanese barberry	Berberis thunbergii
field brome	Bromus arvensis
bald brome	Bromus racemosus
rye brome	Bromus secalinus
flowering rush	Butomus umbellatus
musk thistle	Carduus nutans
Asian bittersweet, oriental bittersweet	Celastrus orbiculatus
spotted knapweed	Centaurea biebersteinii, Centaurea maculosa or Centaurea stoebe
chicory	Cichorium intybus
Canada thistle	Cirsium arvense
bull thistle	Cirsium vulgare
black swallow-wort	Cynanchum louiseae / Vincetoxium nigrum
pale swallow-wort	Cynanchum rossicum / Vincetoxicum rossicum
Chinese yam	Dioscorea polystachya (oppositifolia)
common teasel	Dipsacus fullonum / Dipsacus sylvestris
cutleaf teasel	Dipsacus laciniatus
Brazilian waterweed	Egeria densa
autumn olive	Elaeagnus umbellata
burning bush	Euonymus alatus
wintercreeper	Euonymus fortunei
leafy spurge	Euphorbia esula
tall fescue	Festuca elatior / Schenodorus arundinacea / Festuca arundinacea
meadow fescue	Festuca pratensis
glossy buckthorn	Frangula alnus / Rhamnus frangula
tall or reed mannagrass	Glyceria maxima
garden baby's-breath	Gypsophila scorzonerifolia
giant hogweed	Heracleum mantegazzianum
Japanese hops	Humulus japonicus
hydrilla	Hydrilla verticillata
bicolor lespedeza	Lespedeza bicolor
sericea lespedeza	Lespedeza cuneata
Chinese privet	Ligustrum sinense
Amur honeysuckle	Lonicera maackii
Morrow's honeysuckle	Lonicera morrowii
Manchurian honeysuckle	Lonicera ruprechtiana
trumpet honeysuckle	Lonicera sempervirens
Tatarian honeysuckle, Amur honeysuckle	Lonicera tatarica
goldflame hoenysuckle	Lonicera x heckrottii

honeysuckle	Lonicera x minutiflora
honeysuckle	Lonicera x notha
fly honeysuckle	Lonicera x xylosteoides
purple loosestrife	Lythrum salicaria
osage-orange	Maclura pomifera
spearmint	Mentha spicata
peppermint	Mentha x piperita
Japanese stiltgrass	Microstegium vimineum
Eurasian watermilfoil	Myriophyllum spicatum
princess tree	Paulownia tomentosa
reed canary grass	Phalaris arundinacea
common reed	Phragmites australis ssp australis
Japanese knotweed	Polygonum cuspidatum/Fallopia japonica
curly-leaved pondweed	Potamogeton crispus
kudzu	Pueraria montana var. lobata
callery pear	Pyrus calleryana
common buckthorn	Rhamnus cathartica
black locust	Robinia pseudoacacia5
multiflora rose	Rosa multiflora
crownvetch	Securigera varia / Coronilla varia
giant foxtail	Setaria faberia
foxtail millet	Setaria italica
bristly foxtail	Setaria verticillata
green foxtail	Setaria viridis
Johnson grass	Sorghum halepense
western salsify	Tragopogon dubius
narrow-leaved cattail	Typha angustifolia5
hybrid cattail	Typha x glauca
common vetch	Vicia sativa

2019 Annual Monitoring Report

Reaches 5D, 5E, 7, 8, and the Mack Road Staging Area of the Kress Creek / West Branch DuPage River Site

Appendix F

2020 Project Schedule

WCERT 2020 Project Schedule

Milestone Description	Progress	Start	End	No. Days
Meetings				
Meeting with Agencies to Review 2020 Recommendations	0%	4/20/2020	5/1/2020	11
Sign Off				
Complete sign off documents	0%	5/1/2020	5/30/2020	29
Meet with local communities to discuss sign	0%	5/25/2020	6/19/2020	25
Implementation of Remedial Planting and Seedings				
Overseed 5E with native forb and grass species from approved modified upland mix	0%	11/9/2020	12/11/2020	32
Overseed 5D Upland Savanna with Virginia wild rye and Canada wild rye.		11/9/2020	12/11/2020	32
Install native forb plugs in 5D Upland Savanna	0%	5/1/2020	5/29/2020	28
Implementation of Tree and Shrub Management				
Reset Stakes at Mack Rd.	0%	5/1/2020	5/29/2020	28
Implementation of Vegetation Management Activities				
Control Burn Reach 5E and 5D Upland Savanna	0%	10/26/2020	11/27/2020	32
Spot Herbicide (as needed) Reach 5D Upland Savanna & 5E	0%	4/27/2020	10/2/2020	158
Spot mow (as needed) of Reach 5D Upland Savanna & 5E	0%	5/11/2020	9/11/2020	123
Vegetation Monitoring				
Inventory Flora, Early Summer 2020	0%	6/1/2020	6/26/2020	25
Inventory and Assess Tree & Shrub Survival at Mack Rd. & Reach 5D	0%	8/3/2020	8/28/2020	25
Inventory and Quantitative Sampling, Late Summer 2020	0%	8/17/2020	9/18/2020	32
Reporting				
Prepare Draft Annual Report	0%	9/21/2020	12/16/2020	86
Review of Draft Report by WCERT	0%	12/17/2020	1/15/2021	29
Finalize Report for Distribution to Agencies	0%	1/18/2021	1/22/2021	4
Distribute Report to Agencies	0%	1/26/2021	1/29/2021	1
Agency Report Review	0%	2/2/2021	2/12/2021	10
Finalize Report with Agency Comments	0%	2/15/2021	2/19/2021	4